

JVC

SERVICE MANUAL

MODEL KD-A1ED

STEREO CASSETTE DECK

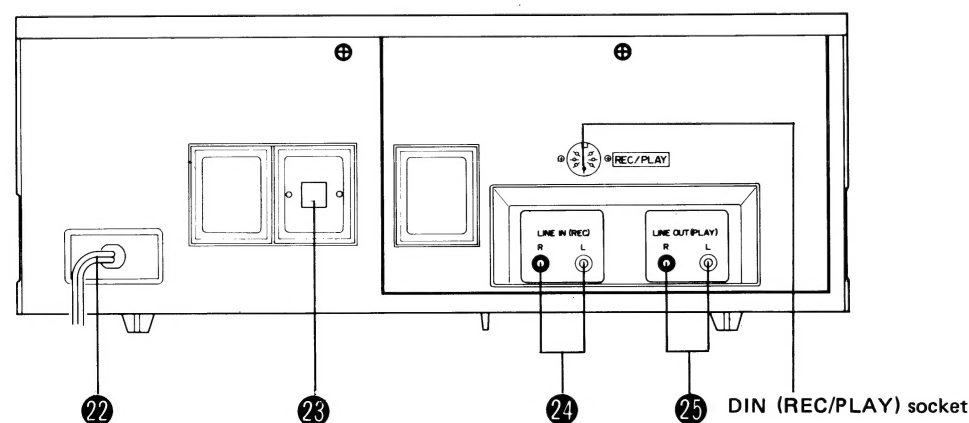


Please note that model KD-A1ED is the same as KD-A1E except the DIN (REC/PLAY) socket, therefore refer to the service manual (No. 4174) to KD-A1E.

Specifications (page 2)

DIN socket;	
Min. input level	0.07mV/k Ω
Input impedance	8k Ω
Output level	300mV
Output impedance	5k Ω
Matching impedance	50k Ω or more

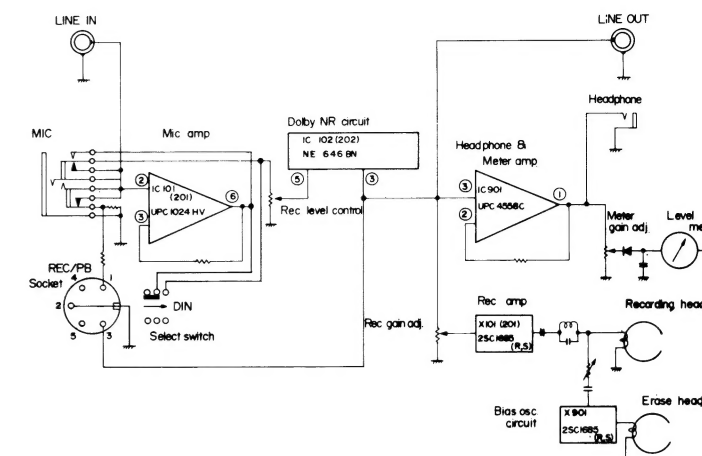
Controls and Connections (page 3)



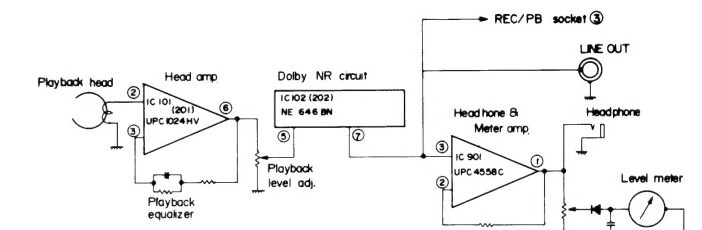
No. 4180
January 1979

Block Diagram (page 11)

Recording system



Playback system



The following is a comparative table between the model of KD-A1ED and KD-A1E.
The other parts not listed here are the same as those of model KD-A1E.
Refer to the service manual (No. 4174) to KD-A1E.

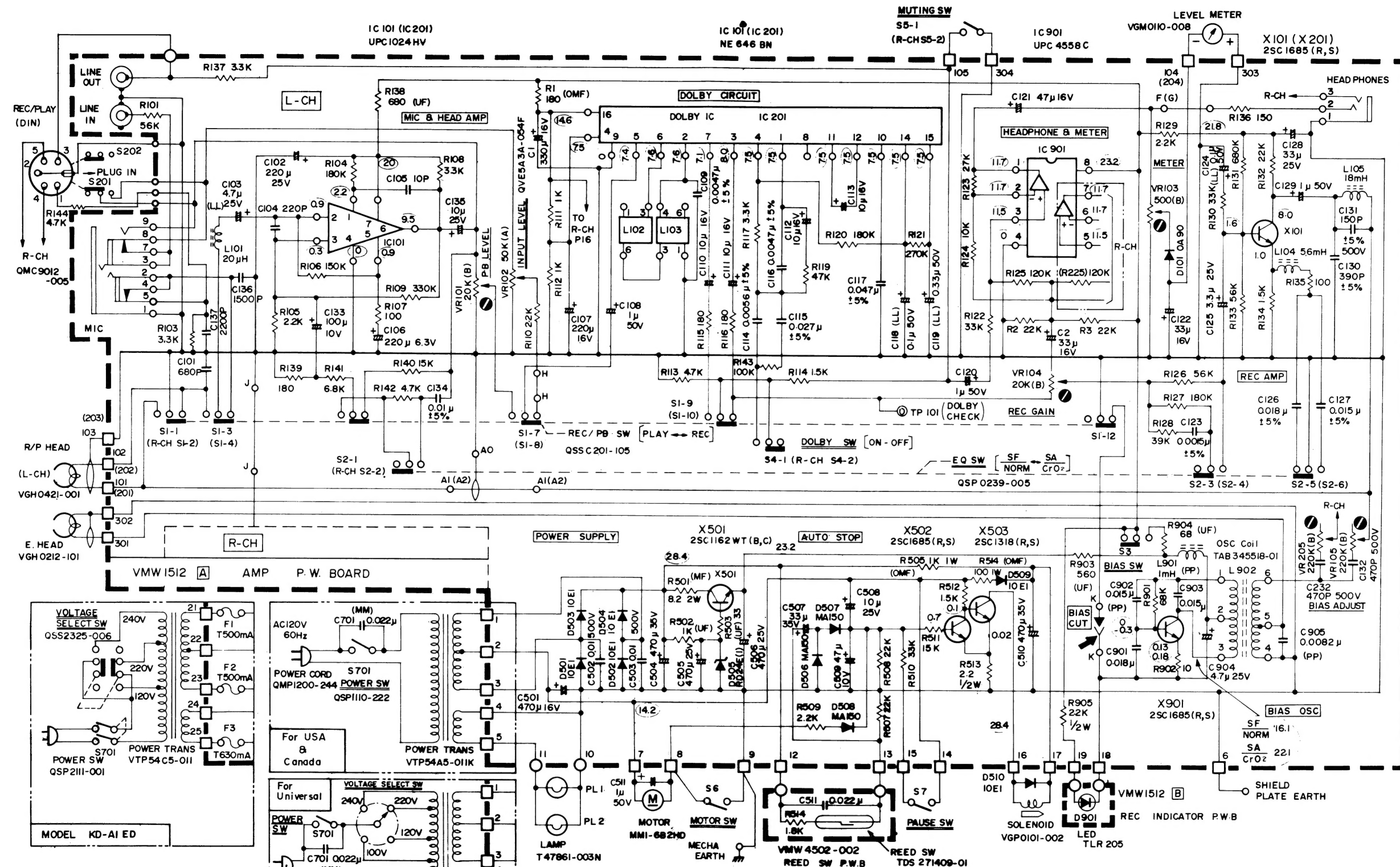
Ref. No.	Parts Name	KD-A1ED	KD-A1E	Q'ty
	(Enclosure Assembly, page 15~16)			
2	Rear Cover	VYH2109-004	VYH2109-002	1
3	Name Plate	VYN2037-011HA	VYN2037-004HA	1
	DIN Bracket	VKL4557-001		1
	DIN Socket Ass'y	QMC9012-005		1
	Screw	SDSP3008RS		2
	Lug Strip Ass'y	QML3030-033		1
	Screw	LPSP3006ZS		1
	DIN Label	VND4015-001		1
	(Accessories, back cover)			
	* Instruction sheet	VNC5309-001		1
	DIN Cord	CN-201 (PIN cords are no provided)	Pin cord Ass'y (VMP0002-00A)	1
	DIN Sticker	VNC5004-001		1
	Mark Sticker	VNC5004-004		1

JVC

VICTOR COMPANY OF JAPAN, LIMITED
RADIO & RECORDING MACHINE DIVISION 804 Futoo-cho, Kohoku-ku, Yokohama, Japan

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Standard Schematic Diagram of KD-A1ED



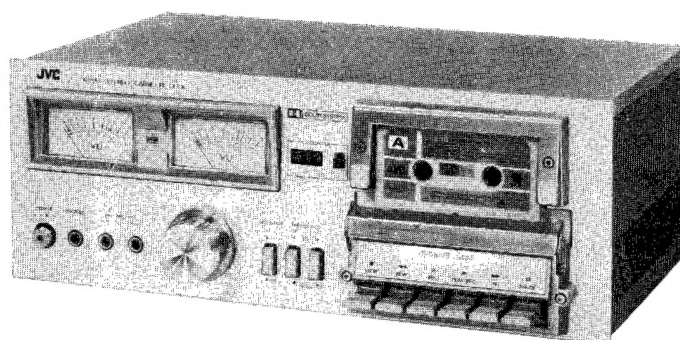
JVC

SERVICE MANUAL

MODEL

KD-A1 A/B/C/E/J/U

STEREO CASSETTE DECK



No. 4174
August 1978

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		Accessories	Back Cover

Specifications

Type	: Stereo cassette deck	Playback torque	: 40 ~ 70 gr-cm
Track system	: 4-track, 2-channel	FF & REW torque	: More than 70 gr-cm
Cassettes	: C-30, C-60, C-90	Semiconductors	: 5 ICs, 7 transistors and 16 diodes.
Frequency response		Input jacks	: Mic jack x 2 Max. sensitivity 0.2mV (-72dBs) Matching impedance 600Ω — 10kΩ Input jack x 2 Min. input level 80mV (-20dBs) Input impedance 100kΩ
SA/CrO ₂ *1	: 30 — 16,000Hz (Nominal) 40 — 15,000Hz (Typical)	Output jacks	: Output jack x 2 Output level, 300mV Output impedance; 4.5kΩ Matching impedance 50kΩ or more Headphone jack x 1 Output level 0.3mW Matching impedance 8Ω — 1kΩ
SF/NORM *2	: 30 — 15,000Hz (Nominal) 40 — 14,000Hz (Typical) Surpasses DIN 45 500	Power requirement	: AC 120V, 60Hz (KD-A1 C/J) AC 240/220/120V, 50/60Hz (KD-A1 A/B/E) AC 240/220/120/100V, 50/60Hz (KD-A1 U)
*1	TDK SA or Equivalent tape	Power consumption	: 7.5W
*2	MAXELL UD or Equivalent tape	Dimensions	: Width; 15-3/8" (390mm) Height; 5-7/8" (149mm) Depth; 10-5/8" (270mm)
Signal-to-Noise ratio	: 57dB (from peak level, weighted) The S/N is improved by 5dB at 1kHz and by 10dB above 5kHz with DOLBY NR. 60dB with DOLBY NR (DIN 45 500, weighted)	Weight	: 9.0 lbs. (4.1kg)
Wow and flutter	: 0.08% (WRMS) 0.20% (DIN 45 511)		
Crosstalk	: 65dB		
Harmonic distortion	: 1.4% (SF tape)		
Bias	: AC bias (95kHz)		
Erase	: AC erase		
Heads	: 2 heads Cronios (Hard permalloy) head for recording/playback and 2-Gap ferrite head for erase		
Motor	: Electronically governed DC motor		
Tape speed	: 4.76cm/sec ± 2%		
Recording time	: 2 x 30 minutes with C-60 cassette		
Fast forward time	: 80 sec., with C-60 cassette		
Rewind time	: 80 sec., with C-60 cassette		

Design and specifications are subject to change without notice.

Features

- Cronios head employed.
- Dolby* Noise Reduction System.
- Direct-loading cassette compartment with dual-ball cassette holder system and flip-down transparent head cover.
- Big-sized, backlit VU meters.
- Single-axis, big-sized recording level controls.
- Independent bias/equalizer selection with the slim-designed tape select switches.
- Automatic input select system (MIC ↔ LINE IN)
- Full automatic stop system.

Dolby* is trademark of Dolby Laboratories Inc. Noise Reduction System manufactured under license from Dolby Laboratories Inc.

Controls and Connections

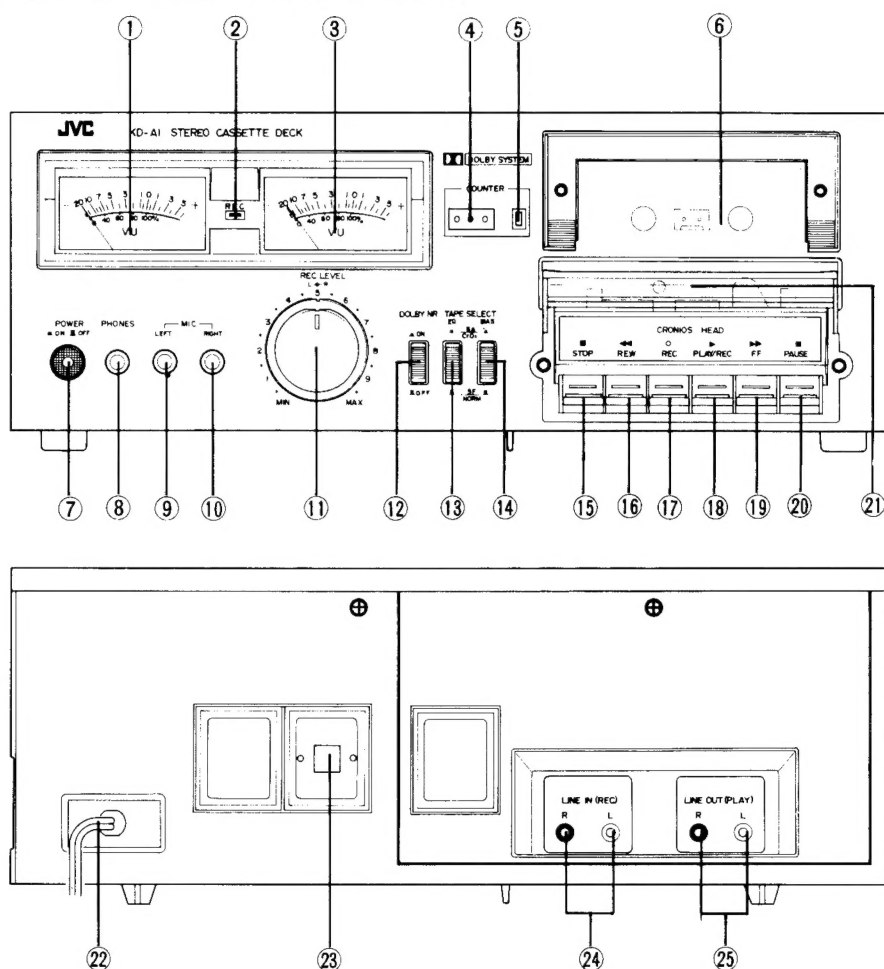


Fig. 1

- | | |
|---|---------------------------------------|
| 1. Left channel level meter | 13. Equalizer switch [TAPE SELECT-EQ] |
| 2. Recording indicator [REC] | 14. Bias switch [TAPE SELECT-BIAS] |
| 3. Right channel level meter | 15. Stop lever [■ STOP] |
| 4. Tape counter [COUNTER] | 16. Rewind lever [◀◀ REW] |
| 5. Counter reset button | 17. Record lever [○ REC] |
| 6. Cassette holder | 18. Playback lever [▶▶ PLAY/REC] |
| 7. Power switch [POWER] | 19. Fast forward lever [▶▶ FF] |
| 8. Headphone jack [PHONES] | 20. Pause lever [■ PAUSE] |
| 9. Left channel microphone jack [MIC-LEFT] | 21. Dust cover (flip-down head cover) |
| 10. Right channel microphone jack [MIC-RIGHT] | 22. Power cord |
| 11. REC LEVEL controls | 23. Voltage selector (KD-A1 A/B/E/U) |
| { inner knob — left channel } | 24. LINE IN (REC) terminals |
| { outer knob — right channel } | 25. LINE OUT (PLAY) terminals |
| 12. Dolby noise reduction switch [DOLBY NR] | |

Main Parts Location

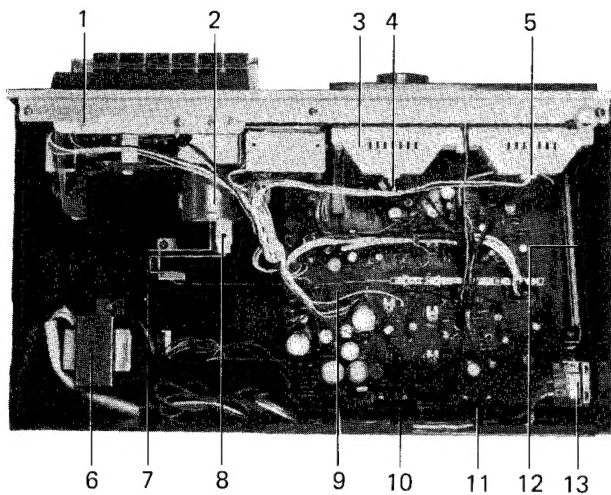


Fig. 2

1. Front panel ass'y
2. Motor
3. Lamp cover
4. Left meter lamp
5. Right meter lamp
6. Power transformer
7. Recording arm (2)
8. Recording arm (1)
9. Main amp P.W. board
10. Pin jack terminals (for recording)
11. Pin jack terminals (for playback)
12. Switch Bar
13. Power switch

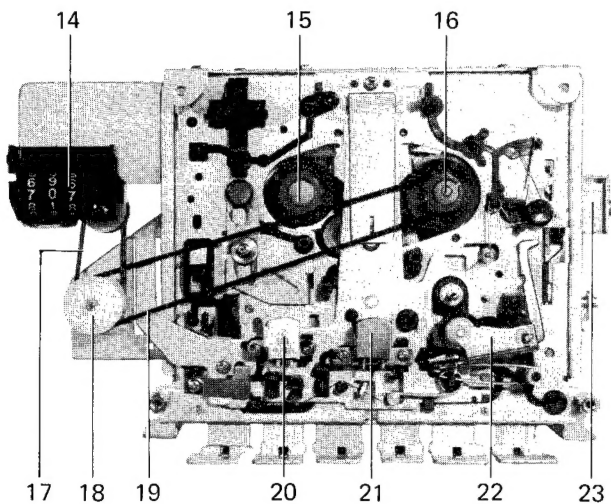


Fig. 3

(Mechanical parts)

14. Counter ass'y
15. Reel disk ass'y (for supply)
16. Reel disk ass'y (for take up)
17. Belt (for counter ass'y, VKB3000-009H)
18. Counter pulley ass'y
19. Belt (for counter ass'y, VKB3000-008H)
20. Erase head ass'y
21. Rec/PB head ass'y
22. Pinch roller arm ass'y
23. D.C. solenoid
24. Flywheel bracket
25. Belt (for capstan, VKB3001-006H)
26. Motor
27. Flywheel ass'y
28. Button spring

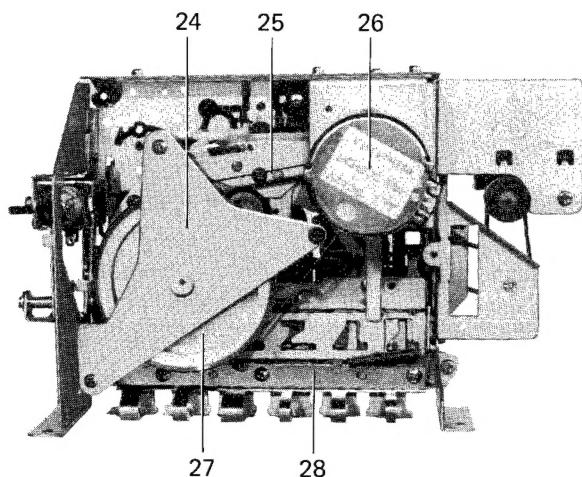


Fig. 4

Removal of the Main Parts

Observe care in handling the parts since the parts are small in size and the distances between them are short due to a deck design aimed mainly at compactness and high performance.

Removal of the enclosure assembly

Top cover

Remove 6 screws (1) (left, right and rear 2 screws on each) and pull out the top cover to upper side.
(When removing the top cover on front panel groove, be care its form.)

Front panel ass'y

Pull out input level control knobs (2) (inner knob and outer ring) from front panel ass'y forward.

Remove 2 special bolts (3) fastening the cassette cover.

Remove 2 special bolts (4) fastening the knobs cover. (with the transparent dust cover.)

Remove 2 screws (5) and 2 studs (6) (for knobs cover) fastening the mechanical ass'y.

Remove 6 screws (7) fastening the front panel ass'y. (3 screws on upper and lower parts)

Note:

1. When replacing the front panel, be sure to employ the earth lug with screw on left upper part.
2. When removing the front panel, can remove as shown below parts with it.
(2 holders, 2 spring plates, 2 balls, meters escutcheon, knob holder and power SW knob holder)

Bottom plate

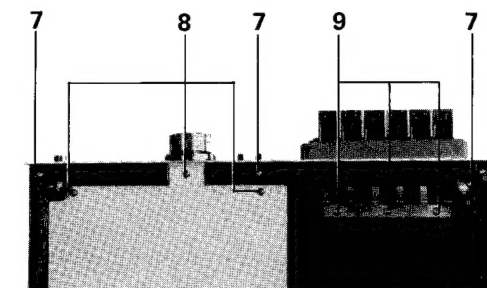
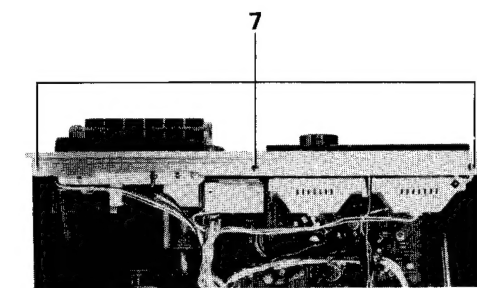
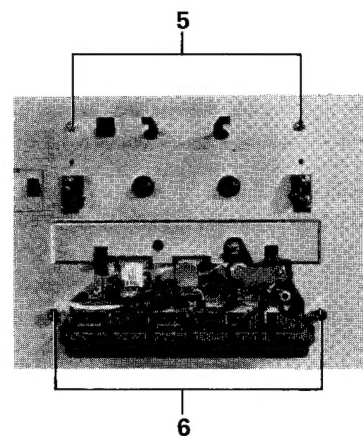
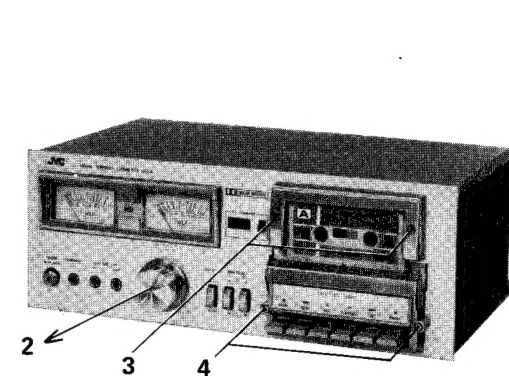
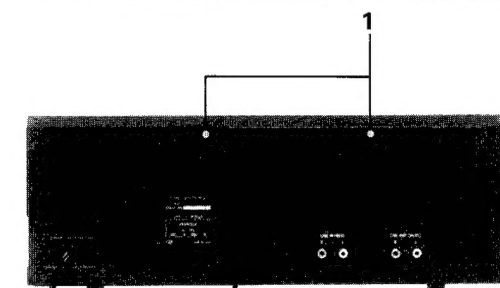
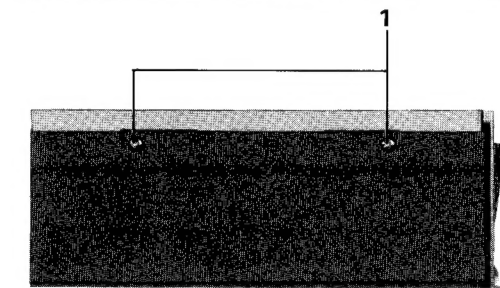
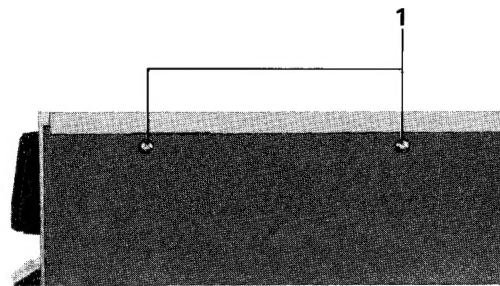
Remove 3 screw (8) on its bottom position.

Rear cover (left half plate of rear)

Remove power supply wires on it and pull out it to upper side.

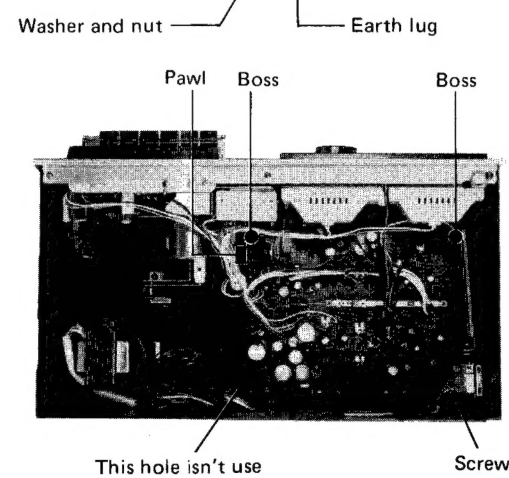
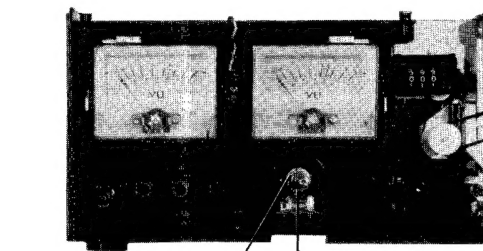
Button spring

Remove 3 screws (9) fastening the spring plate its bottom position.



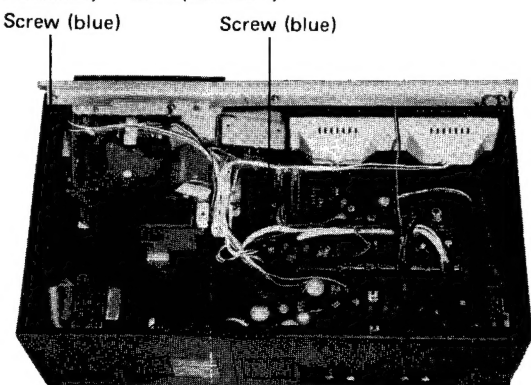
Removal of amp. P.W. board

- 1) Remove a screw fastening the amp. P.W. board.
- 2) Remove a nut and a washer from input level control VR shaft.
(When assembling it, be sure to employ the earth lug on the VR shaft.)
- 3) Pull out the recording spring from the recording switch.
- 4) Remove the amp. P.W. board from 2 bosses of the amp. chassis, removing a pawl of it, and pull out the amp. P.W. board to backward upper side.



Removal of mechanical assembly

Remove 2 screws (a screw on each bracket) fastening the amp. chassis.
(How to remove 2 screws (5) and 2 studs (6) fastening the front panel, to see introduction "Removal of enclosure assembly - front panel ass'y")

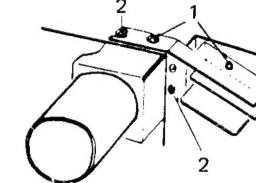


Removal of the motor

1. Remove the 2 screws (1) fastening the bracket of the reed switch P.W. board.
2. Remove the capstan belt from motor pulley.
3. Remove the 2 screws (2) fastening the motor bracket.
4. Pull out the motor pulley.
* Be careful to pull out the motor pulley the same direction as motor shaft. (Don't deflect its direction.)
5. Remove a screw (3) fastening the rubber stopper.
6. To remove the motor, turn it as arrow mark direction.

Replacing of the motor.

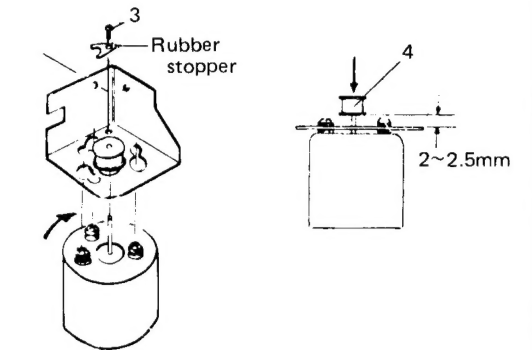
1. Assemble the motor screws and cushion rubbers as same method of before removing the motor, and fix it to the motor bracket.
2. Press the motor pulley (4) as in the following illustration.



Note:

When replacing the motor, check next section.

- 1) Replace the motor correct position? (don't deflect the motor.)
- 2) Run the capstan belt in the center of the motor pulley?
- 3) Run the capstan belt in the center of the flywheel?



Removal of mechanical parts

Pinch roller arm ass'y

Remove the E ring (1)

Remove the pinch roller spring (2) from the pinch roller arm ass'y. Pull off it from the shaft.

REC/PB head

Remove a screw (3)

Remove a screw (4) for head adjustment

Erase head

Remove a screw (5)

Remove a screw (6) for head adjustment

Take-up reel disc

Pull out the reel disc stopper (7) and remove the counter belt (8).

Pull out its disc from shaft.

Supply reel disc

Pull out the reel stopper (9) and pull out its disc from shaft.

Note:

- (1) Remove the reel disc stoppers with a piece of sheet metal inserted between the reel disc and the stopper.
- (2) Be careful not to stain the counter belt.

Counter ass'y

Remove a screw (10)

Remove the counter belt (11)

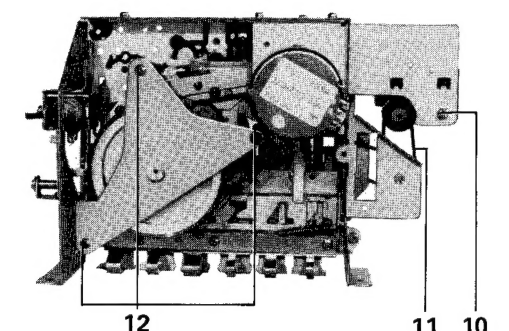
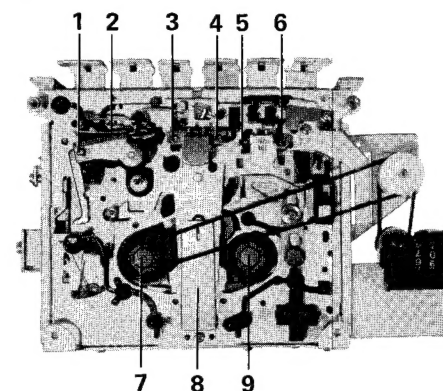
Flywheel ass'y

Remove 3 screws (12) to remove the flywheel bracket.

Remove the capstan belt and pull out the flywheel ass'y.

Note:

1. When replacing the flywheel, be sure to employ washers and spring.
2. Be careful not to soil the capstan belt.

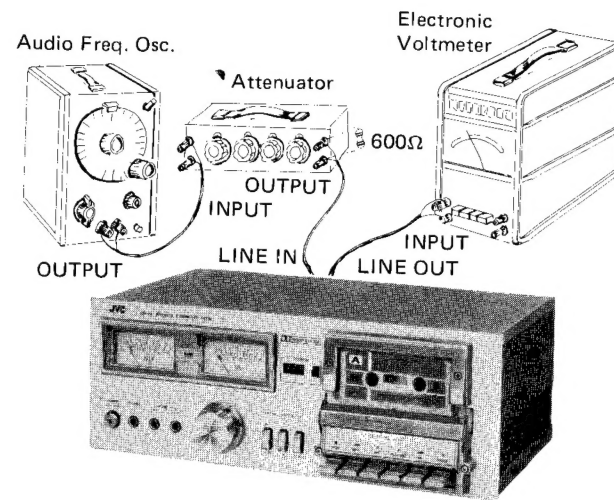


Main Adjustments

[I] Equipment and measuring instruments used for adjustment.

1. Electrical adjustment

- 1) Electronic voltmeter
- 2) Audio frequency oscillator (range; 50–20kHz and output 0dB with impedance 600Ω)
- 3) Attenuator
- 4) Standard tapes for REC/PB
Maxell UD – SF tape } or equivalent
TDK SA – SA tape }
- 5) Reference tapes for playback (JVC Test Tape)
VTT-658 (for head azimuth adj.)
VTT-656 (for motor speed, wow flutter adj.)
VTT-664 (for Reference level 1kHz)
VTT-675N (for playback frequency response)
- 6) Resistors
100Ω (for measurement of the bias current)
600Ω (for attenuator matching)



KD-A1

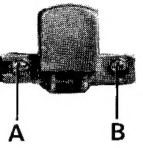
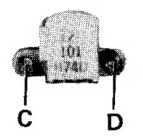
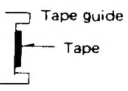
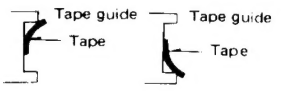
Fig. 5

2. Mechanical adjustment

- 1) Gauge for checking the head position.
- 2) Torque gauge
- 3) Blank tape (C-120) for tape running checker.

[II] Adjustment and repair of the mechanism

(Adjust the mechanism or confirm that it is in normal operating condition prior to the adjustment of the electrical circuit.)

Item	Adjustment	Adjusting point	Standard value	Remarks
Adjusting record/playback head position 	<ol style="list-style-type: none"> 1. Connect an electronic voltmeter to the LINE OUT terminals. 2. Play back the VTT-658 test tape. 3. Adjust the head angle with the screw A until the reading of the electronic voltmeter becomes maximum for both channels. 4. After adjusting, set the screw with screw bond. 	Screw A	Maximum	<ol style="list-style-type: none"> 1. If the head is worn, disconnected or exceedingly magnetized so as not to provide the necessary characteristics, replace it with a new one. After replacement, the head position adjustment as well as the playback level adjustment, the bias current adjustment and the recording level adjustment are all necessary. 2. If the output difference between the left and right channels exceeds 3 – 4dB, the head is defective. Replace it with a new one. <p>Be sure to perform this adjustment after replacing the erase head.</p>
Adjusting erase head height 	<p>Employ a special cassette (C-120) from which parts of the casing, where the erase head, record/playback head and capstan engage, has been cut away. Perform tape transport with the cassette tape. Adjust the screw C until the tape runs in the center of the erase head tape guide.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Correcting</p>  </div> <div style="text-align: center;"> <p>Discorrecting</p>  </div> </div>	Screw C		
Adjusting motor speed	Connect a speed meter to the LINE OUT terminals. Play back the VTT-656 test tape. Adjust the semi-fixed resistor in the motor until the reading of the speed meter is 3000Hz±0.5%	Semi-fixed resistor in the motor case	3000Hz ±0.5% (2985Hz~3015Hz)	

Item	Adjustment	Adjusting point	Standard value	Remarks
Checking playback torque	Employ a torque testing cassette tape for the checking, or remove the cassette cover and use a torque gauge.		40~70 gr-cm	If the standard torque is not obtained, replace the take-up disc assembly.
Checking fast forward torque	Measure the torque in the fast forward mode in the same manner as in the above.		More than 70 gr-cm	<p>If the standard torque is not obtained, perform the following.</p> <ol style="list-style-type: none"> 1. Clean the capstan belt, the idler circumference, the motor pulley, the take-up reel disc circumference, the flywheel circumference etc. 2. Replace the belt and idler.
Checking rewind torque	Measure the torque in the rewind mode in the same manner as in the above.		More than 70 gr-cm	If the standard torque is not obtained, clean the capstan belt, idler, motor pulley, flywheel circumference, rewinding idler circumference, left reel disc circumference etc.
Adjusting the auto-stop mechanism	Perform the adjustment with the 2 screws securing the solenoid.			Check to see if the locked points of the cassette operation levers and the friction-prone points are applied with molybdenum.
Checking wow and flutter	Connect a wow and flutter meter to the LINE OUT terminals. Play back the VTT-656 test tape. Check to see if the reading of the meter is within 0.08% (WRMS).			If the reading become moving value even if conforming to the standard, a re-claim may be raised. Repairs are necessary.

[III] Repair of wow flutter

If wow and flutter increase, check the following points. If there is defect in revolving parts, the wow and flutter generated will increase in proportion to the number of

revolutions.
Play a 3000Hz test tape, and defective part can be detected from the sound.

Section	Trouble	Repair
Capstan and flywheel	Capstan shaft has excessive run-out. Flywheel turns heavily. (shaft seizure, thrust play, etc.)	Replace flywheel. Clean the capstan shaft and the groove in the flywheel. Apply oil to the metal position. Replace the capstan assembly.
Pinch roller	Rough rotation (Deformation scratches, or dust.) The angular position of the pinch roller is not correct. The pinch roller pressure is not correct.	Replace pinch roller, or pinch roller spring. Clean the pinch roller or apply oil to the rotary shaft. Adjust the pinch roller so that it is parallel with the capstan shaft. Replace the pinch roller spring.
Belt	Belt has undue run-out. Belt is dirty or slippery.	Clean the belt. Replace the belt.
Back tension	Back tension is irregular, or back tension is too strong.	Replace back tension spring (under supply disc).
Motor	Motor shaft has undue run-out. Motor pulley is oily and dusty.	Replace motor. Clean motor pulley.

[IV] Electrical adjustments location

- (A) For playback level adjustment (Turning in the direction of the arrow increases the playback levels.)
- (B) For bias current adjustment (Turn in the direction of the arrow increases the bias current value.)
- (C) For meter deflection adjustment (Turning in the direction of the arrow increases the deflection angles.)
- (D) For recording level adjustment (Turning in the direction of the arrow increases the recording levels.)

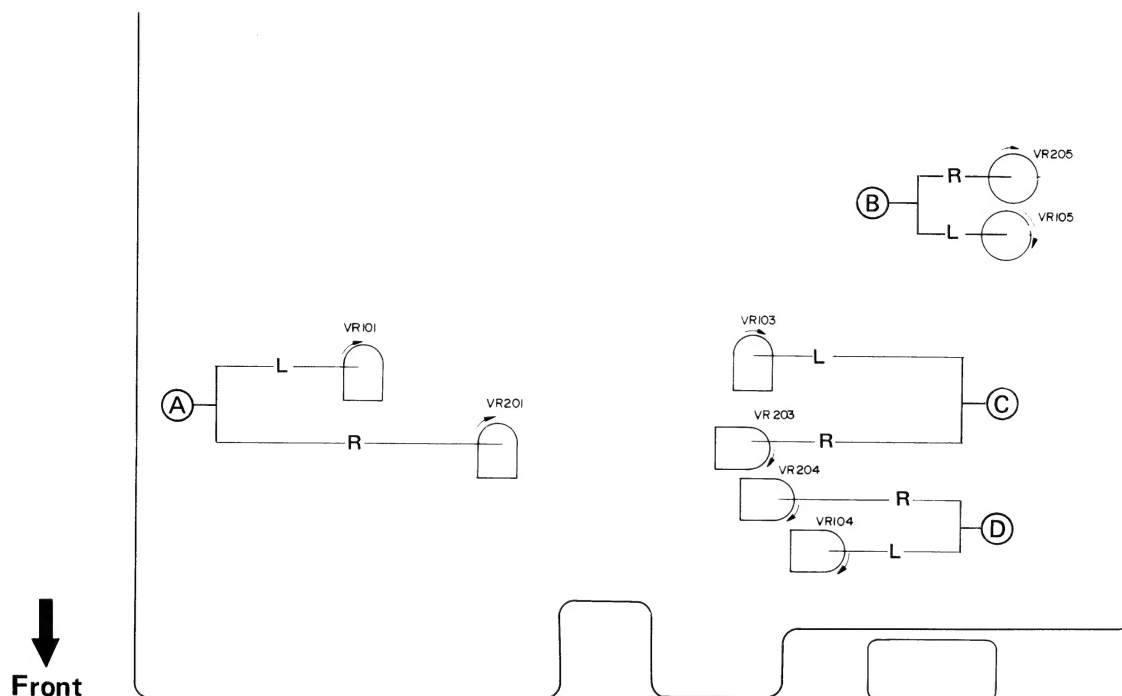


Fig. 6

Repair of the electrical circuit

- To repair the electrical circuit, you may cut away the amplifier chassis (molded) at the section marked "①" under the recording and playback slide switch of the amplifier circuit board.
(This chassis section is required only for molding and does not affect the strength of the unit.
Therefore, you may cut it away, even up to the section marked "②".)

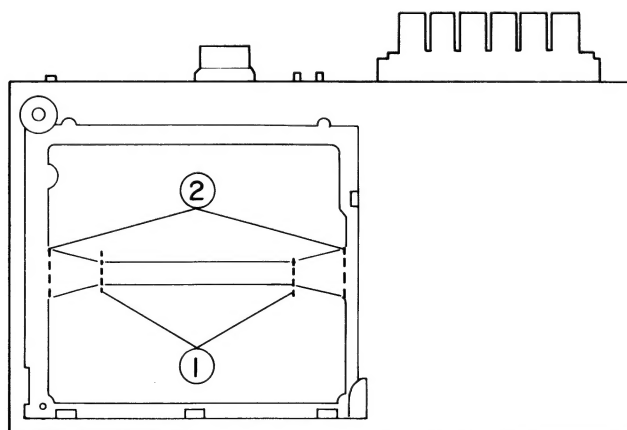


Fig. 7

- To remove the amplifier circuit board, loosen the nut retaining the recording control (REC. LEVEL) shaft, then, moving the shaft downwards, you can remove the amplifier board from the molded part.

[V] Electrical circuit adjustment procedure

In the steps marked by an asterisk (*), adjustment should be performed, however, only checking is sufficient with steps other than those.

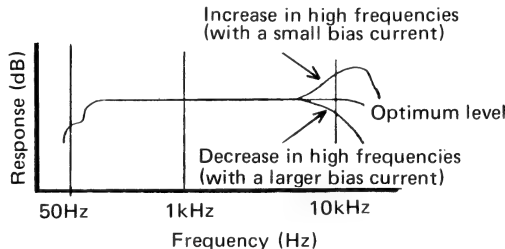
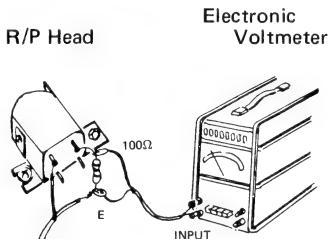
Adjustment should be performed in the order of steps 1,2,3.

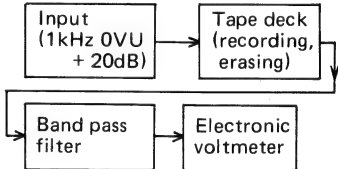
Playback system

Step	Item	Adjustment	Adjusting point	Standard value	Remarks
* 1	Adjusting VU meter sensitivity	1. Set the cassette deck to its recording mode. 2. Apply a 1kHz, approx. -10dBs signal to the LINE IN terminals. 3. Adjust the recording level controls until the signal is available at -8dBs at the LINE OUT terminals. 4. Adjust VR103 and VR203 until the VU meters deflect to 0.	VR103,203 (METER)	0VU	Perform the adjustment when the parts are replaced.
* 2	Adjusting playback level	1. Play back the VTT-664 test tape (1 kHz) with the equalizer switch set to the SF position. 2. Adjust VR101 and VR201 until the VU meters deflect to 0. (The level difference between left and right channels should be less than 1dB.)	VR101,201 (PB. LEVEL)	0VU	1. This adjustment becomes necessary when a change in playback level results (for example, due to head replacement). 2. Perform this adjustment with the Dolby N.R switch set to OFF.
3	Checking the playback frequency response	Play back the VTT-675N test tape. Check to see if the outputs at the frequencies conform to the standard levels.		Standard frequency; 1kHz With a SF tape +2dB±3dB at 63Hz 0±3dB at 10kHz With a and SA tapes +2dB±3dB at 63Hz -4dB±3dB at 10kHz	The 1kHz output with the equalizer switch set to SF refers to SA tape.

Recording system

Step	Item	Adjustment	Adjusting point	Standard value	Remarks
* 1	Checking record/playback frequency response	Record 1kHz, 50Hz and 12.5kHz signal at an input level of 0VU -20dB. Play back the tape. Check to see that the 50Hz and 12.5kHz signal output deviations fall within the standard range, using the 1kHz signal output as a reference. (It is basically desirable that the 1kHz, 50Hz and 12.5kHz signal outputs are the same.)	L-ch; VR105 R-ch; VR205	Standard frequency; 1kHz With a SF tape -2±3dB at 50Hz 0±3dB at 12.5kHz With a chrome tape -2±3dB at 50Hz 0±3dB at 12.5kHz	This checking should be performed for SF and SA tapes and for both right and left channels. Adjustment is performed with the semi-fixed resistors for bias current adjustment (L-ch; VR105, R-ch; VR205)

Step	Item	Adjustment	Adjusting point	Standard value	Remarks
					<ol style="list-style-type: none"> 1. Bias current adjustment for a cassette deck should generally be performed referring to the record/playback frequency response. This is because the frequency response of a cassette deck depends more greatly upon the bias current than does that of an open reel deck. The current measuring method described below is an alternative one. 2. If the bias current is not properly adjusted, the record and playback characteristics become as shown below.
2	Checking recording bias current	<p>Alternative method</p> <ol style="list-style-type: none"> 1. Set the deck to its recording mode. 2. Connect a 100Ω resistor to the grounding terminal (+ terminal in playback) and the lead wire of the head as shown below. 3. Measure voltage at both ends of the resistor with electronic voltmeter. <div style="text-align: center;">  </div>		<p>With SF tape 31mV</p> <p>With SA tape 46.5mV</p>	<ol style="list-style-type: none"> 1. In order to distinguish the — terminal of the head from its + terminal, touch the terminals with a finger while the deck is in the playback mode. The VU meters deflect when the — terminal during recording is touched. (For a record/playback head, the polarity is reversed according to whether recording or playback.) 2. Be sure to employ a shielded wire.
* 3	Adjusting recording level	<ol style="list-style-type: none"> 1. Apply a 1kHz, approx. -10dB signal to the LINE IN terminals. Adjust the recording level controls until the signal is available at -8dBs at the LINE OUT terminals. 2. After checking to see if the VU meters point to 0, record the signal applied to both left and right channels using a SF tape. 3. Play back the recorded part. Perform the recording signal adjustment with VR104 and VR204 so that the VU meters deflect to 0. 	VR104,204 REC LEVEL	0VU	The level difference between left and right channels for SF tape and SA tape should be less than 1dB (1 VU). Perform the adjustment using a SF tape, level difference between recording and playback for SA tape should be less than 1.5dB, and that between left and right channels should also be less than 1.5dB.

Step	Item	Adjustment	Adjusting point	Standard value	Remarks
4	Checking re-cord/playback signal distortion	<ol style="list-style-type: none"> 1. Record a 1kHz, 0VU -8dBs signal to LINE IN terminals and perform recording with the VU meters pointed to 0. 2. Play back the recorded part. Check the output with a distortion meter to see if the value conforms to the standard value. 		SF tape; 1.4%	Be sure to perform this adjustment following bias current and recording level adjustments.
5	Checking signal to noise ratio in recording/play-back	<ol style="list-style-type: none"> 1. Record a 1kHz, 0VU signal. Stop the input by disconnecting from the terminal to perform non-signal recording. 2. Play back the recorded part. Measure the 0VU recording output and the non-signal recording output for comparison using an electronic voltmeter. Check to see if the value conforms to the standard value. 		SF tape; More than 42dB SA tape; More than 42dB	Apply an output (-66dBs) to the MIC terminals with the recording level controls set to maximum so that the VU meters deflect to 0.
6	Checking erasing coefficient	<ol style="list-style-type: none"> 1. Apply a 1kHz signal to the LINE IN terminals. Adjust the recording level controls until the VU meters deflect to 0. 2. Perform recording with the signal enhanced by 20dB. 3. Erase a part of the recording. 4. Measure the output difference between the erased part and non-erased part to compare with an electronic voltmeter. 		More than 60dB	For the measuring, connect a band pass filter between the deck and the electronic voltmeter 

Maintenance

To get long, trouble-free service, maintenance is important. Do not forget cleaning and demagnetizing.

Cleaning

After long use, the heads and tape part — capstan, pinch roller, etc. — will become dirty with dust or magnetic particles. Dirty heads cause imperfect erasing or high frequency drop-off. A dirty capstan and pinch roller will cause unstable tape speed, leading to increased wow and flutter. Always keep them clean by following the procedure below.

1. Heads

- 1) Open the flip-down transparent head cover.
- 2) Use the head cleaning stick provided to wipe the surface where the tape comes into contact with the head.
(It is effective to moisten the cotton with alcohol.)

2. Pinch roller and capstan

- 1) Press the PLAY Lever, and then the pinch roller will move out and rotate. (at power switch ON)
 - 2) Apply a soft cloth (soaked in alcohol, it will be more effective) to the rotating pinch roller and capstan.
Be careful not to let the cloth get caught!
- * Do not use any cleaner besides alcohol or a specifically prepared tape head cleaning solution.

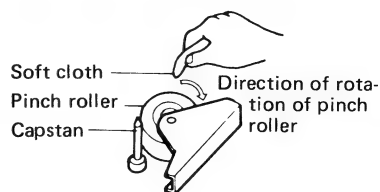


Fig. 8

3. Cabinet

When the cabinet becomes dirty, wipe it with a soft cloth soaked with a neutral cleaning solution of a polishing cloth.

* Do not use thinner or benzene.

Demagnetizing

The heads are made from a material resistant to magnetization, but after long use they may become magnetized. A magnet brought into their vicinity can magnetize the heads, causing excess noise. If noise seems to have increased, demagnetize the heads with a head demagnetizer through the following procedure.

1. Turn the POWER switch OFF.
2. Wrap the tip of the demagnetizer with vinyl tape or soft cloth so as not to damage the head surface. Switch on the demagnetizer and bring it close to the head.
3. Move the tip of the demagnetizer slowly first to the left and right, then up and down in front of the head.

Gradually move it away from the head and switch it off at a distance of more than 30cm. (12")

4. The erase head need not be demagnetized. The capstan shaft and tape guide should be demagnetized in the same way as the record/playback head.

* Do not bring a magnetized metallic object (a screwdriver, for example) near the head as this will increase noise.

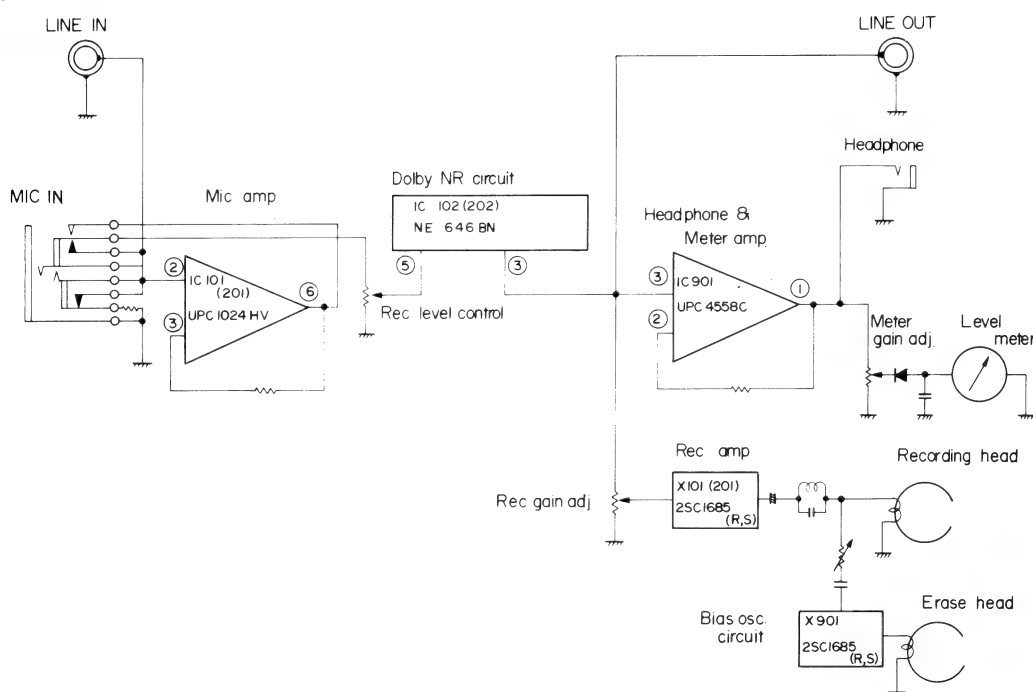
Oiling

Apply one or two drops of machine oil to the rewind roller shaft and pinch roller shaft once or twice a year under normal conditions of use.

Avoid oiling them excessively, or rotation may become irregular because of oil splashes.

Block Diagram

Recording System



Playback System

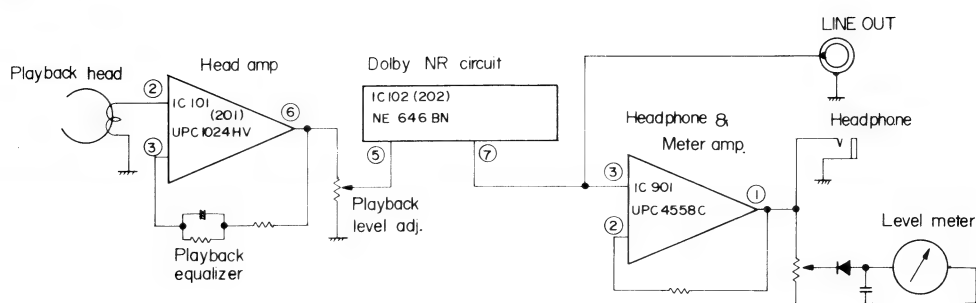
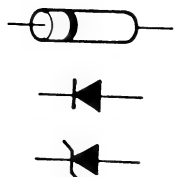
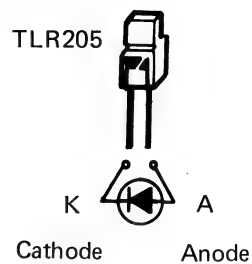


Fig. 9

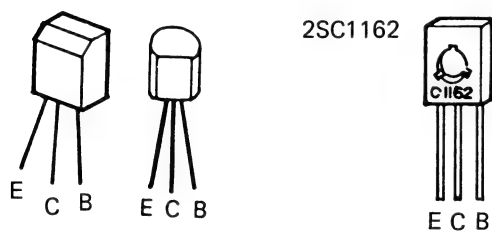
[Diode]



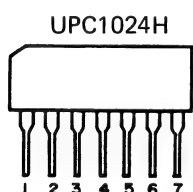
[LED for indicators]



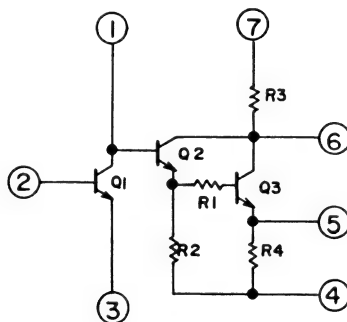
[Transistor]



[ICs]

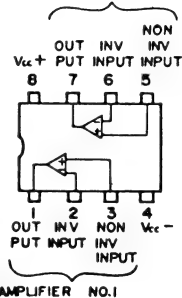


Equivalent Circuit

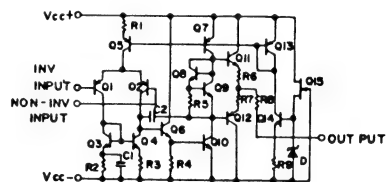


UPC4558C

AMPLIFIER NO.2



Equivalent Circuit (1/2)



[IC for Dolby N.R Circuit]

NE646BN

(Top View)

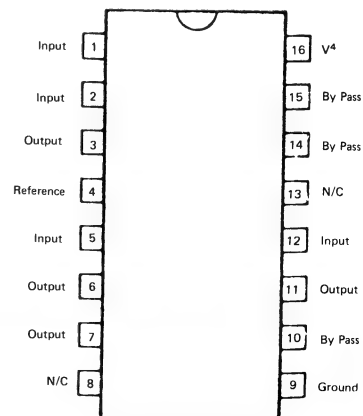
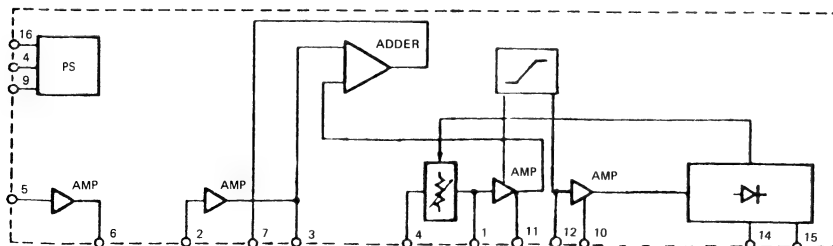


Fig. 10

Standard Schematic Diagram of KD-A1

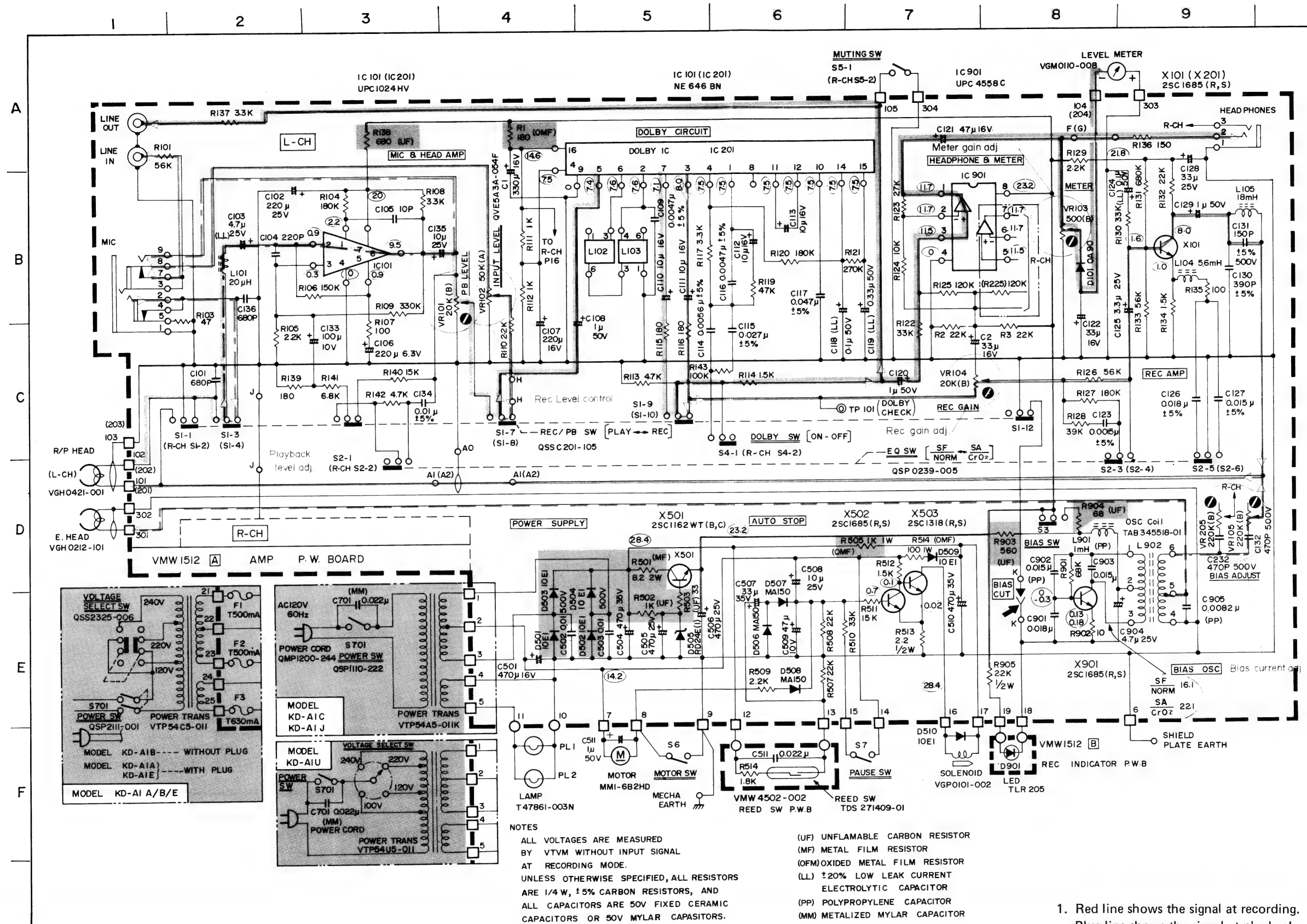
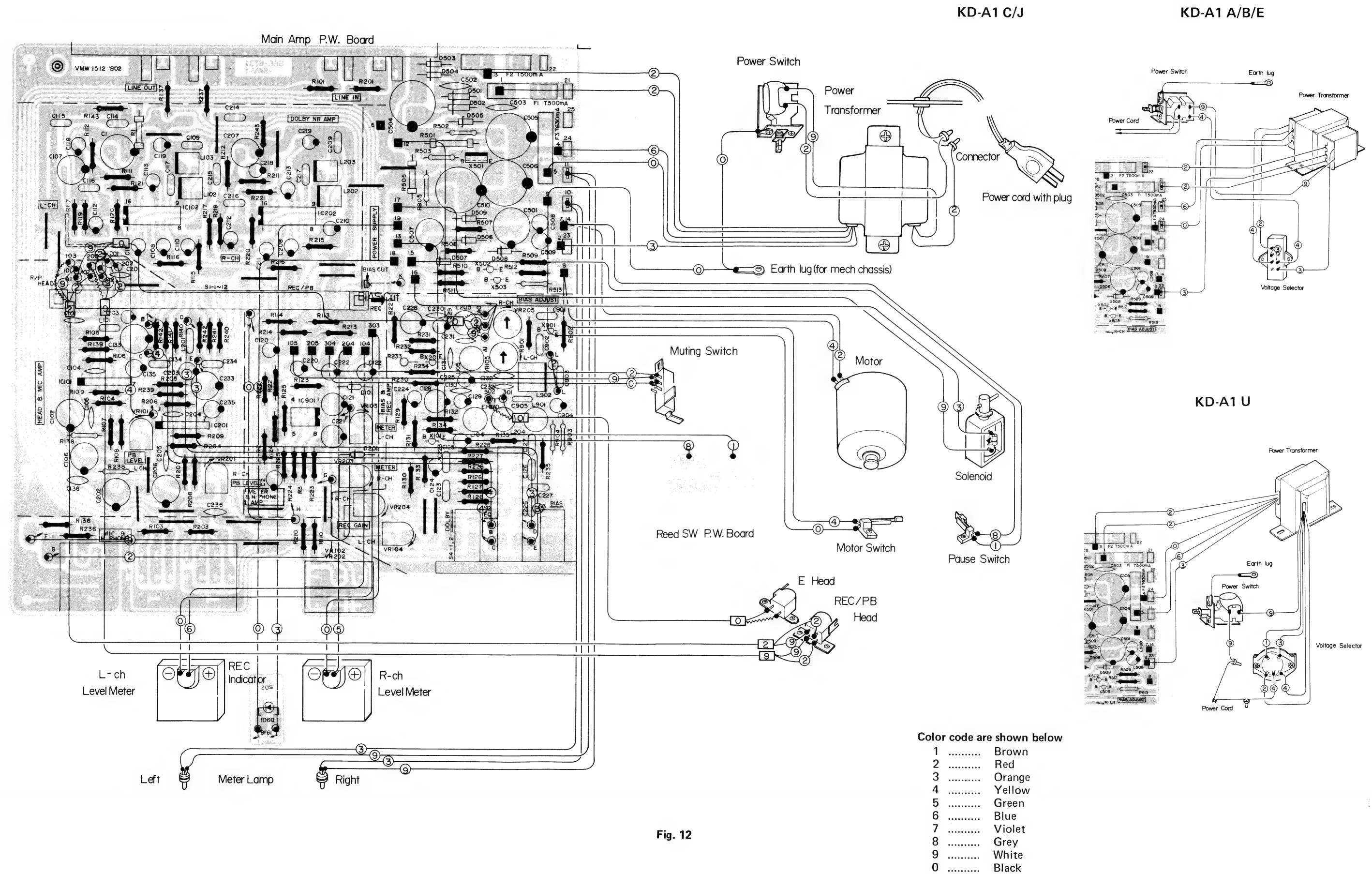


Fig. 11

Wiring Connection of KD-A1



Enclosure Assembly and Electrical Parts List (Except P.W. Board Parts)

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
1	VGM0110-008	Meter		2
2	VYH2109-002	Rear Cover		1
3	*VYN2037-002HA	Name Plate	KD-A1 A	1
	* " -001HA	"	KD-A1 B	1
	* " -003HA	"	KD-A1 C	1
	* " -004HA	"	KD-A1 E	1
	* " -005HA	"	KD-A1 J	1
	* " -006HA	"	KD-A1 U	1
4	VYH2110-003	Top Cover		1
5	VYH3138-001	Bottom Plate		1
6	VYH4269-001	Earth Lug	for Front Plate~Top Cover	1
7	VXP4020-003	Push Knob	for Tape Selector	3
8	VXL4039-00A	Volume Knob Ass'y (L)		1
9	VXL4040-001	Volume Knob (R)		1
10,11	ZCKDA1Y-CBF	Front Panel Ass'y		1 set
24,25				
10	*VJC2012-006	Front Panel		1
11	VJD1001-003	Meter Escutcheon		1
12	VJD1002-003	Cassette Cover		1
13	BYS3016RS	Special Bolt		2
14	TEP336439-01	Holder	for (Left)	1
15	TFP336440-01	Spring Plate		1
16	TEP336439-02	Holder	for (Right)	1
17	TFP336440-02	Spring Plate		1
18	T41615-007	Ball		2
19	VKH4178-001	Stud	for Cover	2
20	VJD1003-003	Knob Cover		1
21	VJD4197-003	Control Plate		1
22	BYS3006RS	Special Bolt		2
23	VYH3139-001	Dust Cover		1
24	VJD4198-001	Holder	for Power	1
25	VJD4199-005	Knob Holder	for Tape Selector	1
26	VKL4325-00A	Rec Bracket Ass'y		1
27	VKL4163-001	Rec Arm (1)		1
28	VKL4326-001	Rec Arm (2)		1
29	VKW4140-001	Rec Spring		1
30	VKY4111-003	Button Spring		1
31	VXP3018-004	Push Button		4
32	" -005	"		1
33	" -006	"		1
34	VKH4176-002	Shaft		1
35	VKL4323-001	Bracket (R)	+VKL4402-001 = VKL4432-001 (plate) bracket (R)	1
36	VKL4323-002	" (L)	+VKL4402-001 = VKL4431-001 (plate) bracket (L)	1
37	VXP4016-002	Power SW Button		1
38	*VYH4268-001	Bar		1
39	53492	Rubber Bushing		1
40	E48981-001	Stopper Pin		1
41	VYH1110-002	Amp Chassis		1
42	QMP2500-200	Power Cord with Plug	KD-A1 A	1
	QMP9017-008BS	Power Cord	KD-A1 B	1
	QMP1200-244	Power Cord with Plug	KD-A1 C/J	1
	QMP3900-244	"	KD-A1 E	1
	QMP7600-183	"	KD-A1 U	1
43	QHS3876-252	Strain Relief	KD-A1 A/E	1
	QHS3876-252BS	"	KD-A1 B	1
	QHS3056-252	"	KD-A1 C/J/U	1
44	TAW000504-01	Wire Connector	KD-A1 C/J/U	1
45	QSP2111-011	Power Switch	KD-A1 A/E	1
	QSP2111-011BS	"	KD-A1 B	1
	QSP1110-222	"	KD-A1 C/J	1
	QSP1110-221	"	KD-A1 U	1
46	VKL4324-001	Switch Bracket	for Power SW.	1
47	VTP54C5-011	Power Transformer	KD-A1 A/E	1

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	VTP54C5-001BS	Power Transformer	KD-A1 B	1
	VTP54A5-011K	"	KD-A1 C/J	1
	VTP54U5-011	"	KD-A1 U	1
48	VKL4167-001	Transformer Bracket		1
49	*VKS3107-001	Lamp Cover		1
50	*T47861-003N	Lamp	PL1,2	2
51	*VYH4315-001	Lamp Holder		2
52	TLR205	LED	for REC Indicator	1
53	VMW1512-001B	P.W. Board	for LED. (marking B)	—
54	QZF2308-001	Foot		2
55	*VYH4270-002	Earth Lug	for Input Volume	1
56	T30483-00C	Muting Switch		1
57	TDS271409-01	Reed Switch		1
58	VMW4502-002	P.W. Board	for Reed Switch	1
	QCS11HK-101	F.C. Capacitor	C511 100pF 50V	1
	QRD142K-182	C. Resistor	R514 1.8Ω ¼W	1
	TER271414-01	Spacer		1
59	VKL4306-001	Bracket		1
60	53492-002	Rubber Bushing		2
61	T30302-063	Collar		2
62	QSS2325-011BS	Slide Switch	for Voltage Selector	1
	QSS2325-011	"	" KD-A1 B	1
	QSR0084-001	Voltage Select SW.	" KD-A1 A/E	1
64	VKL4275-001	Bracket	" KD-A1 U	1
65	QFA72BM-223	M.P. Capacitor	" KD-A1 U	1
	QFH27BM-223	M.M. Capacitor	for Power SW. KD-A1 C	1
	QFH53AM-223	"	" KD-A1 J	1
66	T47047-001	Capacitor Boot	" KD-A1 U.	1
68	51739-2	Lug	for Capacitor KD-A1 J/U	1
69	VKZ4001-010	Wire Holder		1
70	VKL4405-001	Shield Plate	Rear x 2, Mecha x 1	3
71	VKL4404-001	Guide Bracket		1
72	VYSP2R8-002	Washer	for Power Switch	1
101	REE3000	E. Ring	for Foot (Height Adjustment)	2
102	REE4000	"	for REC Arm	2
103	Q03093-832	Washer	for Bracket	2
104	WNB3000N	"	for Push Button	7
105	SBSB2608Z	Screw	for Reed Switch	2
106	SBSB3010Z	"	for Holder (L & R)	4
107	SBSB3008Z	"	for Rec Bracket x 3	3
			for Front Panel	
			~Amp Chassis x 6	18
			Bracket x 2	
			P.W. Board x 1	
			Cover x 1	
			Rec Indicator x 1	
			Wire Holder x 1	
			Bottom x 3	
			Button Spring x 3	
108	SBSB3008C	"	for Mecha.~Amp Chassis	2
109	SDBP3006RS	"	for Foot x 2	4
110	SDSP3006RS	"	Power Switch x 2	
			for Top Cover x 6	7
			Voltage Select SW	
			Bracket (KD-A1U) x 2	
111	SPSP2608Z	"	for Reed Switch	2
112	LPSP3006ZS	"	for Power Switch x 2	4
			Voltage Select SW x 2	
			(KD-A1U)	
113	LPSP3006CS	"	for Mecha + Front Panel	2
114	LPSP4018ZS	"	for Power Transformer	2
115	SDBP3010RS	"	for Voltage Select Switch	2
			(KD-A1 A/B/E)	
116	LPSP2605Z	"	for Muting Switch x 2	3
			Reed SW Bracket x 1	

Enclosure Assembly and Electrical Parts

(Except P.W. Board Parts)

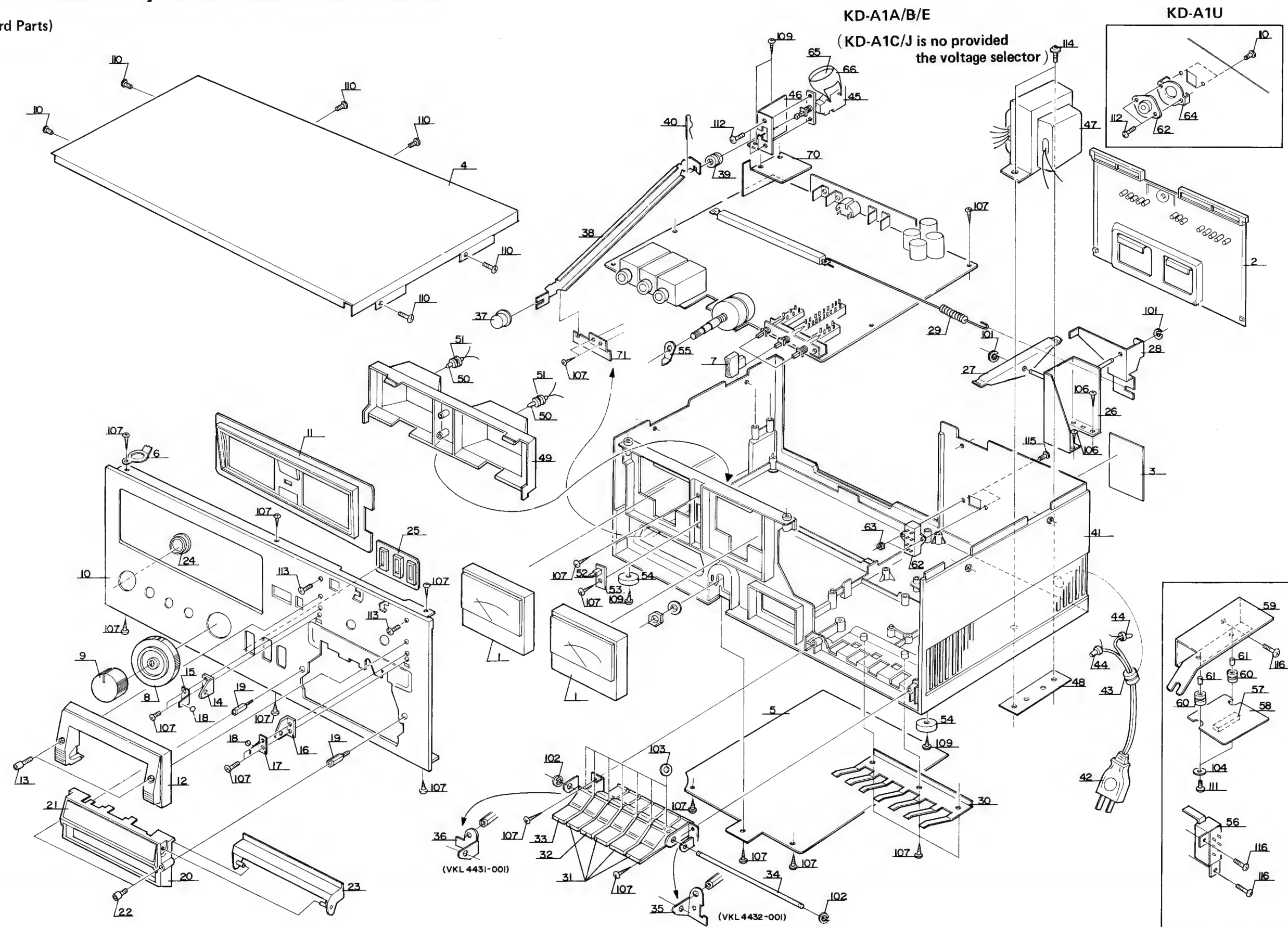


Fig. 13

Mechanical Components Parts

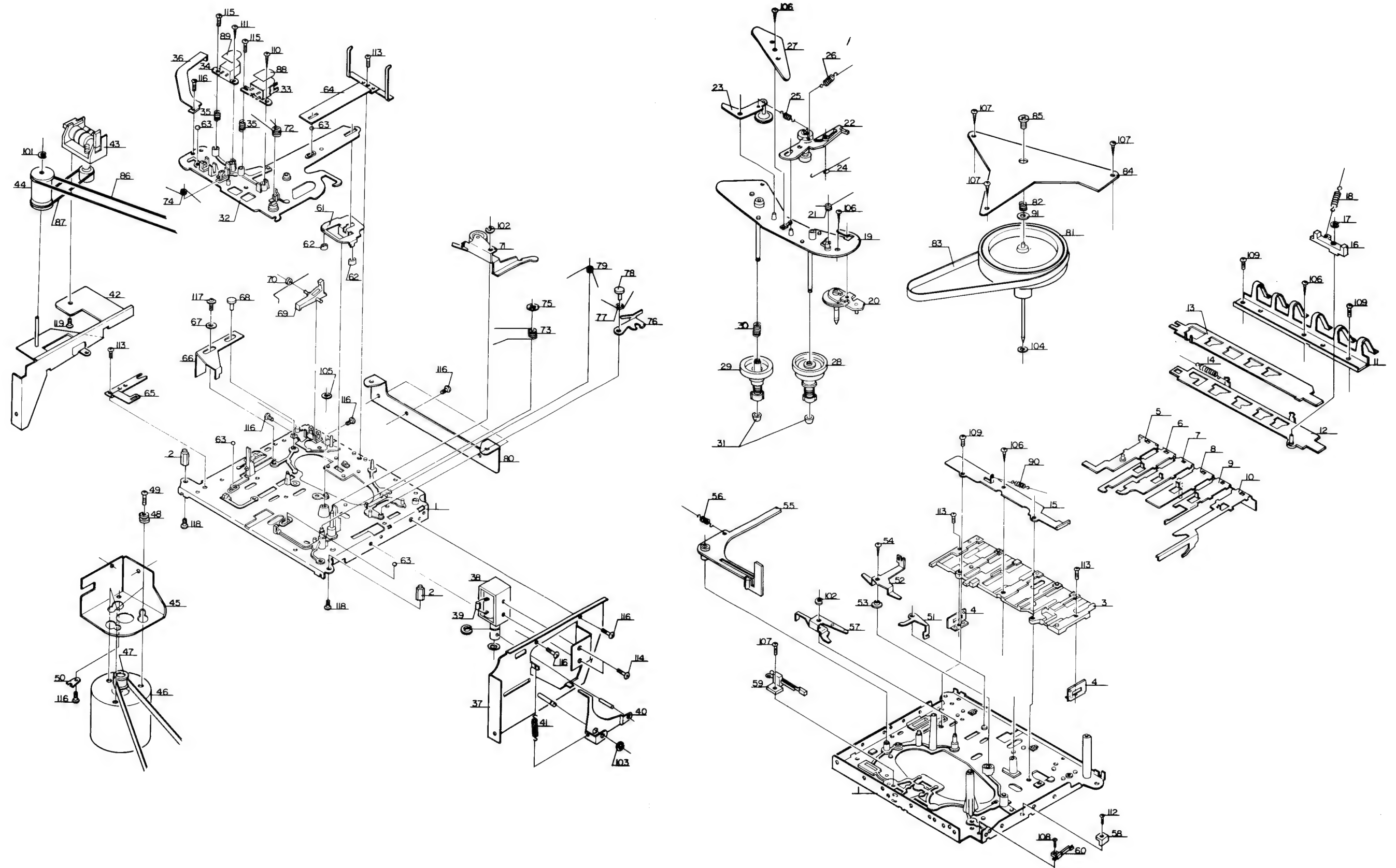


Fig. 14

Mechanical Component Parts List

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
1	*TGC357101-0E	Chassis Base Ass'y		1
2	*VKH4179-002	Stud		2
3	TEP357103-01	Push Bar Case		1
4	VKL4311-001	Cam Guide Bracket		2
5	TGB361402-0C	Stop Eject Bar Ass'y		1
6	VKL4307-001	Rew Bar		1
7	VKL4309-001	Rec Bar		1
8	TGB357413-0D	Play Bar Ass'y		1
9	VKL4310-001	FF. Bar		1
10	VKL4121-001	Pause Bar		1
11	VKY3101-001	Button Spring		1
12	TGB357302-0H	Push Bar Cam (1) Ass'y		1
13	VKL3130-002	Push Bar Cam (2)		1
14	VKW3000-001	Tension Spring	Cam (1), Cam Guide BKT	1
15	TFB357418-02	Push Bar Plate		1
16	VKS4103-002	Auto-stop Kick Lever		1
17	TEP357421-01	Special Washer		1
18	T30300-203	Tension Spring	Kick Lever	1
19	TGP357305-0A	Reel Disk Bracket Ass'y		1
20	TGP357425-0D	Take-up Bar Ass'y		1
21	TFW357430-02	Take-up Bar Spring		1
22	TGB357438-0A	FF. Arm Ass'y		1
23	TGB357447-0A	Rew Idler Arm Ass'y		1
24	TFW357446-02	FF. Arm Spring		1
25	T30300-205	Tension Spring	(FF. Arm, Rew Arm)	1
26	VKW3002-001	Tension Spring	(FF. Arm, Rew Lever)	1
27	VKL4312-001	Arm Stopper		1
28	TGP357431-0D	Reel Disk Ass'y	(Take-up)	1
29	TGP357431-0C	Reel Disk Ass'y	(Supply)	1
30	VKW3001-018	Compression Spring	Back Tension	1
31	TEP357437-02	Reel Stopper		2
32	TGB357202-0E	Head Base Ass'y		1
33	VGH0421-001	R.P. Head Ass'y		1
34	VGH0212-101	E. Head Ass'y		1
35	T30301-148	Compression Spring		2
36	*VKL4328-001	SW. Bar		1
37	*VKL4329-00A	Holder Bracket (R) Ass'y		1
38	VGP0101-002	D.C. Solenoid		1
39	10E1	Diode	for Solenoid D501	1
40	*VKL4331-001	Stop Arm		1
41	VKW3000-001	Spring	Stop Arm	1
42	*VKL4332-00A	Counter Bracket Ass'y		1
43	*TGN294317-0A	Counter Ass'y		1
44	*VKR4109-00A	Counter Pulley Ass'y		1
45	*VKL4333-001	Motor Bracket		1
46	MM1-6B2HD	Motor		1
47	*VKR4110-001	Motor Pulley		1
48	TER357465-02	Cushion Rubber		3
49	VKZ4109-001	Motor Screw		3
50	TFB345469-01	Rubber Stopper		1
51	VKL4115-001	Rec Lock Lever		1
52	TFB357453-01	FF. Lever		1
53	VKH4103-001	Collar		1
54	GPSA2608Z	W. Tapping Screw	(FF. Lever)	1
55	TEP357422-05	Brake Lever		1
56	T30300-204	Tension Spring	(Brake Lever)	1
57	TFB357452-02	Rew Lever		1
58	TEP361406-01	Pause Bar Guide		1
59	V31162-001	Leaf Switch	(Motor)	1
60	VSH1102-001	Switch Ass'y	(Pause)	1

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
61	VKL4248-001	Brake Bar		1
62	TER313493-01	Brake Rubber		2
63	T41615-004	Steel Ball		4
64	VKY4107-001	Pack Spring		1
65	TFP357460-03	Head Base Spring Plate		1
66	TFB357408-03	Rec Push Bar		1
67	VKH3001-015	Flange Collar		1
68	TEP357469-02	Stopper		1
69	TEP357406-01	Rec Safety Lever		1
70	TFW357471-01	Rec Safety Lever Spring		1
71	*TGB361409-0B	Pinch Roller Arm Ass'y		1
72	TFW357467-04	Head Base Spring		1
73	TFW357463-02	Pinch Roller Spring		1
74	TFW361408-01	Rec Lock Lever Spring		1
75	VKH3000-005	Collar	(Pinch Roller Spring)	1
76	VKL4228-001	Pause Lock Cam		1
77	VKW4127-001	Pause Lock Cam Spring		1
78	TEP357469-02	Stopper	(Pause Lock Cam)	1
79	TFW357470-02	Take-up Spring		1
80	*VKL4334-001	Holder Bracket		1
81	*TEW357307-0D	Flywheel Ass'y		1
82	T30301-155	Spring	(Thrust)	1
83	*VKB3001-006H	Belt	(Capstan)	1
84	TFB357455-01	Flywheel Bracket		1
85	TEP357456-01	Thrust Screw		1
86	*VKB3000-008H	Belt	(Counter)	1
87	*VKB3000-009H	Belt	(Counter)	1
88	TJL000430-01	Head Plate	(R.P. Head)	1
89	THS000489-02	Head Label	(E. Head)	1
90	T30300-211	Spring	(FF. Arm, Push Bar Plate)	1
91	Q03093-522	Washer	for Oil Cut ($\phi 2.4 \phi 5.5$ t0.5)	1
92	VKZ4001-009	Wire Holder		1
101	REE1500	E. Ring	for Counter Pulley Ass'y	1
102	REE2500	"	for Rew Lever x 1	2
103	REE3000	"	Pinch Roller Arm Ass'y x 1	1
104	Q03093-621	Washer	for Stop Arm	1
105	" -611	"	for Thrust ($\phi 2.6 \phi 15$ t0.3)	1
106	SBSB2606Z	Screw	for Thrust ($\phi 2.6 \phi 7.5$ t0.3)	1
			for Button Spring x 2	4
			Push Bar Plate x 1	
			Arm Stopper x 1	
107	SBSB2608Z	"	for Reel Disk Bracket x 3	5
			Motor Switch x 1	
			Flywheel Bracket x 1	
108	SDSP2606Z	Screw	for Pause Switch	1
109	SDSP2608Z	"	for Push Bar Case	4
110	SPSB2006Z	"	for R.P. Head	1
111	SPSB2008Z	"	for E. Head	1
112	SPSP2008Z	"	for Pause Bar Guide	1
113	SPSP2604Z	"	for Cam Guide Bracket x 2	3
			Head Base Spring Plate x 1	
114	SPSP3003ZS	"	for Solenoid	2
115	SPSX2012Z	"	for R.P. Head x 1, E. Head x 1	2
116	LPSP2604Z	"	for SW. Bar x 1	11
			Rubber Stopper x 1	
			Holder Bracket (R) x 2	
			Counter Bracket x 2	
			Motor Bracket x 2	
			Holder Bracket x 3	
117	LPSP2606Z	"	for Rec Push Bar	1
118	LPSP3006ZS	"	for Stud	2
119	LPSP3008ZS	"	for Counter	1

P. W. Board Parts

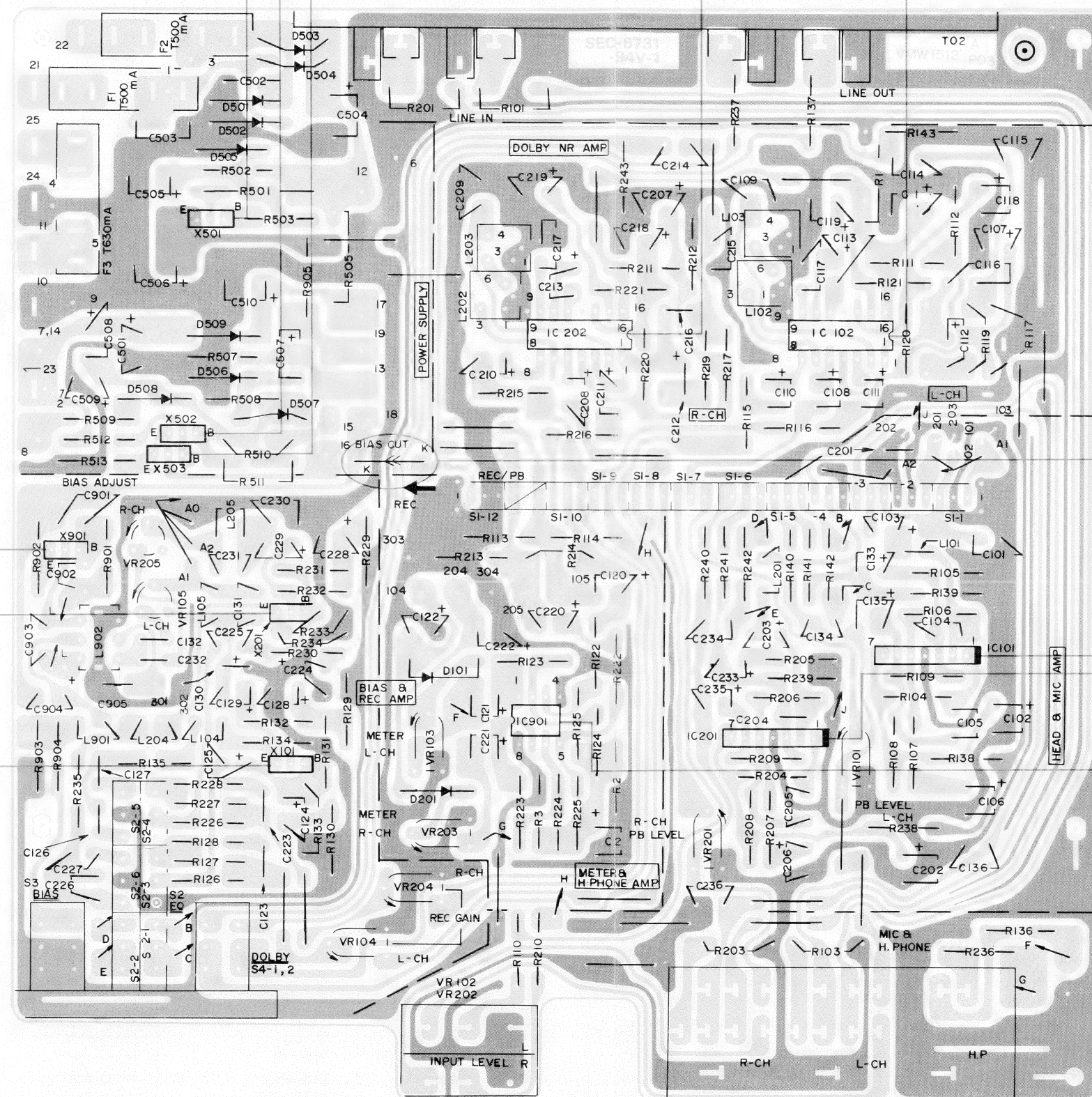
Voltage values are measured by the following meter without input signal at recording mode.

C. Tester = Circuit Tester (20k Ω /V impedance)
E. Voltmeter = Electronic Voltmeter

		E	C	B	
X101	C. Tester	1.0	7.0	1.3	
	E. Voltmeter	1.0	8.0	1.6	
X201	C. Tester	1.0	7.0	1.3	
	E. Voltmeter	1.0	8.0	1.6	
X901	C. Tester	0.13	16.1	0	SF/NORM
		0.18	22.1	-0.3	SA/CrO ₂
	E. Voltmeter	0.13	16.1	0	SF/NORM
		0.18	22.1	-0.3	SA/CrO ₂

		E	C	B
X501	C. Tester	23.2	27.7	23.9
	E. Voltmeter	23.2	27.2	23.9
X502	C. Tester	0.02	0.1	0.7
	E. Voltmeter	0.02	0.1	0.7
X503	C. Tester	0.02	28.4	0.1
	E. Voltmeter	0.02	28.4	0.1

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC202	C. Tester	3.4	7.2	7.8	7.2	5.2	7.3	6.8	—	0	7.0	1.0	6.9	—	6.0	5.5	14.6
	E. Voltmeter	7.5	7.6	8.0	7.5	7.4	7.6	7.1	—	0	7.5	7.4	7.5	—	7.5	7.3	14.6



Bias Cut
(When adjusting the bias current, unsolder this wire to stop the bias oscillation.)

		1	2	3	4	5	6	7	8
IC101	C. Tester	2.2	0.7	0.3	0	0.9	9.5	20.0	
	E. Voltmeter	2.2	0.9	0.3	0	0.9	9.5	20.0	
IC901	C. Tester	11.7	11.7	9.5	0	9.5	11.7	11.7	23.2
	E. Voltmeter	11.7	11.7	11.5	0	11.5	11.7	11.7	23.2

Fig. 15

P. W. Board Parts

Voltage values are measured by the following meter without input signal at recording mode.

C. Tester = Circuit Tester (20kΩ/V impedance)
E. Voltmeter = Electronic Voltmeter

		E	C	B
X501	C. Tester	23.2	27.7	23.9
	E. Voltmeter	23.2	27.2	23.9
X502	C. Tester	0.02	0.1	0.7
	E. Voltmeter	0.02	0.1	0.7
X503	C. Tester	0.02	28.4	0.1
	E. Voltmeter	0.02	28.4	0.1

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC202	C. Tester	3.4	7.2	7.8	7.2	5.2	7.3	6.8	—	0	7.0	1.0	6.9	—	6.0	5.5	14.6
	E. Voltmeter	7.5	7.6	8.0	7.5	7.4	7.6	7.1	—	0	7.5	7.4	7.5	—	7.5	7.3	14.6

		E	C	B	
X101	C. Tester	1.0	7.0	1.3	
	E. Voltmeter	1.0	8.0	1.6	
X201	C. Tester	1.0	7.0	1.3	
	E. Voltmeter	1.0	8.0	1.6	
X901	C. Tester	0.13	16.1	0	SF/NORM
		0.18	22.1	-0.3	SA/CrO2
	E. Voltmeter	0.13	16.1	0	SF/NORM
		0.18	22.1	-0.3	SA/CrO2

Bias Cut
(When adjusting the bias current, unsolder this wire to stop the bias oscillation.)

		1	2	3	4	5	6	7	8
IC101	C. Tester	2.2	0.7	0.3	0	0.9	9.5	20.0	
	E. Voltmeter	2.2	0.9	0.3	0	0.9	9.5	20.0	
IC901	C. Tester	11.7	11.7	9.5	0	9.5	11.7	11.7	23.2
	E. Voltmeter	11.7	11.7	11.5	0	11.5	11.7	11.7	23.2

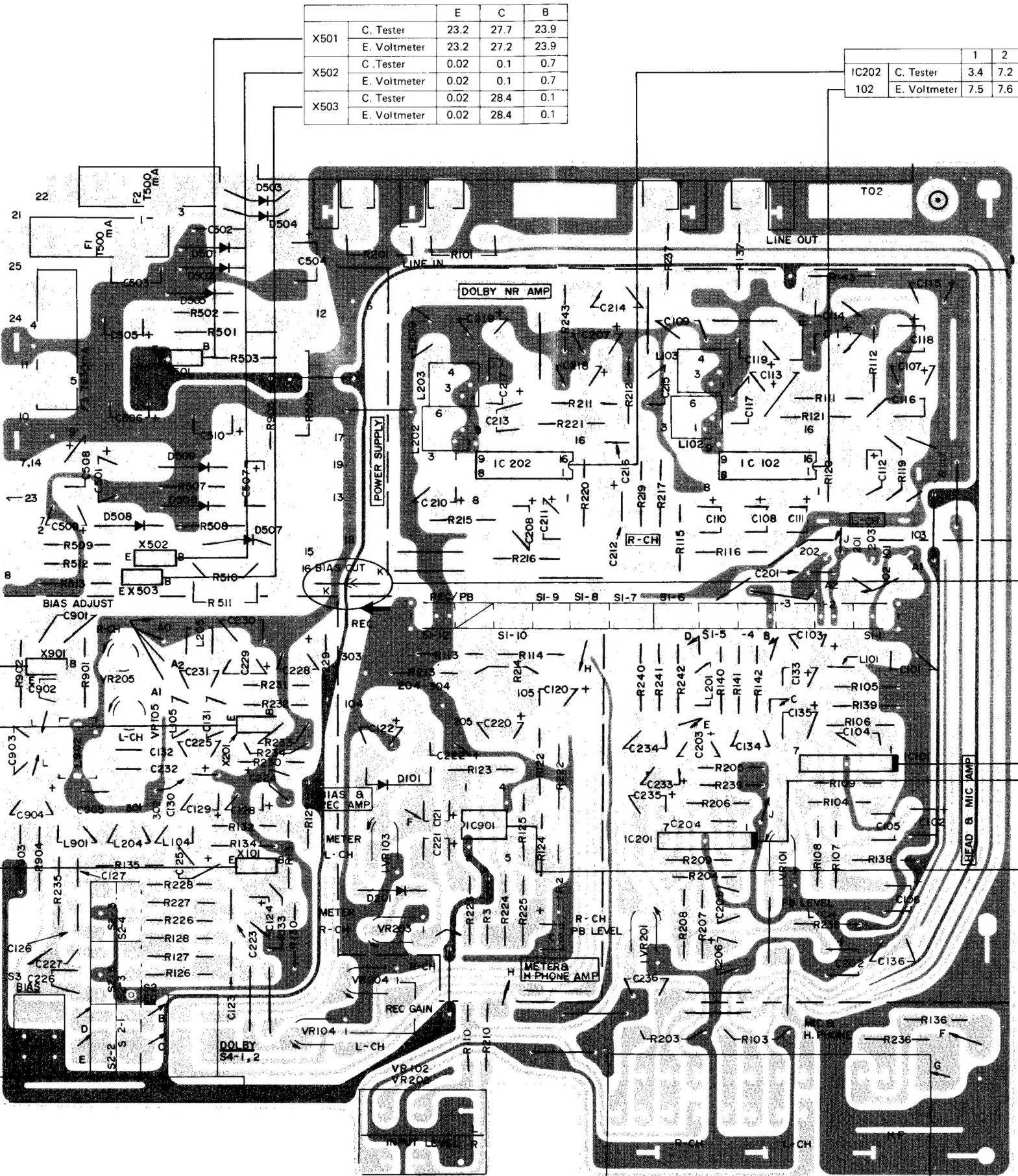


Fig. 15

P.W. Board Parts List

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
R101,201	*VMW1512-003	P.W. Board	(Marking A)	1
R103,203	QRD141K-563	C. Resistor	56kΩ ¼W	2
R104,204	" -470	"	47Ω "	2
R105,205,110,210	" -184	"	180kΩ "	2
R106,206	" -222	"	2.2kΩ "	4
R107,207,135,235	" -154	"	150kΩ "	2
R108,208	" -101	"	100Ω "	4
R109,209	" -332	"	3.3kΩ "	2
R111,211,112,212	" -334	"	330kΩ "	2
R113,213,142,242	" -102	"	1kΩ "	4
R114,214,134,234	" -472	"	4.7kΩ "	4
512	" -152	"	1.5kΩ "	5
R115,215,116,216	" -181	"	180Ω "	4
R117,217,137,237	" -332	"	3.3kΩ "	4
R119,219	" -473	"	47kΩ "	2
R120,220	" -184	"	180kΩ "	2
R121,221	" -274	"	270kΩ "	2
R122,222,130,230	" -333	"	33kΩ "	5
510	"	"	"	"
R132,232,2,3,507	" -223	"	22kΩ "	6
508	"	"	"	"
R124,224	" -103	"	10kΩ "	2
R125,225,	" -124	"	120kΩ "	2
R901	" -681	"	680kΩ "	1
R127,227,	" -184	"	180kΩ "	2
R128,228	" -393	"	39kΩ "	2
R129,229,509	" -222	"	2.2kΩ "	3
R131,231	" -684	"	680kΩ "	2
R133,233,126,226	" -563	"	56kΩ "	4
R136,236	" -151	"	150Ω "	2
R138,238	QRD146K-681	"	680Ω "	2
R139,239	QRD141K-181	"	180Ω "	2
R140,240	" -153	"	15kΩ "	2
R141,241	" -562	"	5.6kΩ "	4
R143,243	" -104	"	100kΩ "	2
R1	ORG019J-181	OMF Resistor	180Ω 1W	1
R902	QRD141K-100	C. Resistor	10Ω ¼W	1
R903	QRD146K-561	"	560Ω "	1
R904	" -680	"	68Ω "	1
R905	QRD121K-222	"	2.2kΩ "	1
R501	QRX029J-8R2	M.F. Resistor	8.2Ω	1
R502	QRD146K-102	C. Resistor	1kΩ ¼W	1
R503	" -330	"	33Ω "	1
R505	ORG019J-102	OMF Resistor	1kΩ	1
R511	QRD141K-153	C. Resistor	15kΩ ¼W	1
R513	QRD121K-2R2	"	2.2Ω ½W	1
R514	ORG016J-101	O.M.F. Resistor	100Ω	1
	QWY123-022	Bus Wire		27
C101,201	QCS11HJ-681	F.C. Capacitor	680pF 50V	2
C102,202	QEW41EA-227N	Low Leak E. Capacitor	47μF 25V	2
C103,203	QEB41EM-475M	"	4.7μF "	2
C104,204	QCS11HK-221	F.C. Capacitor	220pF 50V	2
C105,205	QCS11HK-100	F.C. Capacitor	10pF "	2
C106,206	QEW40JA-227N	E. Capacitor	220μF 6.3V	2
C107,207	QEW41CA-227N	"	220μF 16V	2
C108,208	QEW41HA-105N	"	1μF 50V	2
C109,209,116,216	QFM41HJ-472	Mylar Capacitor	0.0047μF ¼W	4
C110,210,111,211	QEW41CA-106N	E. Capacitor	10μF 16V	8
112,212,113,213	"	"	"	"
C114,214	QFM41HJ-562	Mylar Capacitor	0.056μF 50V	2

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
C115,215	QFM41HJ-273	Mylar Capacitor	0.027μF 50V	2
C117,217	QFM41HJ-473	"	0.047μF "	2
C118,218	QEB41HM-104M	Low Leak E. Capacitor	0.1μF "	2
C119,219	" -334M	"	0.33μF "	2
C120,220	QEW41HA-105N	E. Capacitor	1μF "	2
C121,221	QEW41CA-476N	"	47μF 16V	2
C122,222	" -336N	"	33μF "	2
C123,223	QFM41HJ-152	Mylar Capacitor	0.0015μF 50V	2
C124,224	QEB41HM-104M	Low Leak E. Capacitor	0.1μF "	2
C125,225	QEW41EA-335N	E. Capacitor	3.3μF 25V	2
C126,226	QFM41HJ-183	Mylar Capacitor	0.018μF 50V	2
C127,227	" -153	"	0.015μF "	2
C128,228	QEW41EA-336N	E. Capacitor	33μF 25V	2
C129,229	QEW41HA-105N	"	1μF 50V	2
C130,230	QCS11HJ-391	F.C. Capacitor	390pF "	2
C131,231	QCS12HJ-151	"	150pF "	2
C132,232	QCY12HK-471	Polystyrene Capacitor	470pF	2
C133,233	QEW41AA-107N	E. Capacitor	470μF 16V	2
C134,234	QFM41HJ-103	Mylar Capacitor	0.01μF 50V	2
C135,235	QEW41EA-106N	E. Capacitor	10μF 25V	2
C136,236	QCS11HK-681	F.C. Capacitor	680pF 50V	2
C2	QEW41CA-336N	E. Capacitor	33μF 16V	1
C1	QEW41CA-337N	"	330μF 16V	1
C901	QFM41HK-183	Mylar Capacitor	0.018μF 50V	1
C902	QFP32AJ-153L	Polypropylene Capacitor	0.018μF	1
C903	"	"	0.015μF	1
C904	QEW41EA-475	E. Capacitor	4.7μF 25V	1
C905	QFP32AJ-822L	Polypropylene Capacitor	0.0082μF	1
C501	QEW41CA-477N	E. Capacitor	470μF 16V	1
C502,503	QCF12HP-103	F.C. Capacitor	0.01μF 50V	2
C504,510	QEW41VA-477N	E. Capacitor	470μF 35V	2
C505,506	QEW41EA-477N	"	470μF 25V	2
C507	QEW41VA-336N	"	33μF 35V	1
C508	QEW41EA-106N	"	10μF 25V	1
C509	QEW41AA-476N	"	47μF 16V	1
VR101,201,104,204	QVP8A0B-024	V. Resistor	20kΩ	4
VR102,202	QVE5A3A-054F	"	Input Volume 50kΩ	1
VR103,203	QVP8A0B-052	"	500Ω	2
VR105,205	QVP4A0B-224	"	22kΩ	2
L101,201	TAC000493-01	Inductor	20μH	2
L102,202	*VQZ0006-001	Dolby Filter	95kHz	2
L103,203	*VQZ0004-001	"	19kHz	2
L104,204	VQP0001-562	Inductor	"	2
L105,205	" -183	"	"	2
L901	" -102	"	"	1
L902	TAB345518-01	OSC Coil	"	1
IC102,202	NE646BN	Dolby IC	"	2
IC101,201	UPC1024HV	IC	"	2
IC901	UPC4558C	IC	"	1
X101,201,502,901	2SC1685(R,S)	Si. Transistor	"	4
X501	2SC1162WT(B,C)	"	"	1
X503	2SC1318(R,S)	"	"	1
D101,201	OA90	Ge. Diode	"	2
D501,502,503,504,	10E1-B	Si. Diode	"	4
D506,507,508	MA-150	Si. Diode	"	3
D505	RD24E(1)	Zener Diode	"	1
D509	10E1	Si. Diode	"	1
	QSSC201-105	Slide Switch	for REC/PB	1

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	VMJ6002-002	Jack Ass'y	for PIN	1
	VMJ5002-001	Jack Ass'y	for MIC & Headphone	1
	QSP0239-005	Push Switch Ass'y	for Dolby NR. EQ. Bias	1
	TAZ000331-02	Fuse Holder	KD-A1 A/B/E	6
	QMF51A2-R50	Fuse	Fuse 1,2 KD-A1 A/E	2
	QMF51A2-R50BS	"	" KD-A1 B	2
	QMF51A2-R63	"	Fuse 3 KD-A1 A/E	1
	QMF51A2-R63BS	"	" KD-A1 B	1
	VKL3143-001	Board in Tab	for Bias Cut	1
	E43727-002	Wrapping Tab		15
	E40130-001	Tab	for Lamp Wire	2
	" -001	Tab	for Power Transformer	5
	" -002	Tab	sec. wire KD-A1 A/B/E	5
	VYTN414-001	Shield Plate	" KD-A1 C/J/U	1
	*VKL4433-001	Shield Plate	for DOLBY NR freq. response by Bias Current leaking	1
(REC Indicator)	VMW1512-002B	P.W. Board	(Marking B)	
	TLR205	LED	for REC Indicator	1
[Reed Switch]	VMW4502-002	P.W. Board	for Reed Switch	1
	TDS271409-01	Reed Switch	"	1
	QCF11HP-223	F.C. Capacitor	C511 0.023 μ F 50V	1
	QRD142K-182	C. Resistor	R514 1.8k Ω 1/4W	1
	TER271414-01	Spacer		1

Packing

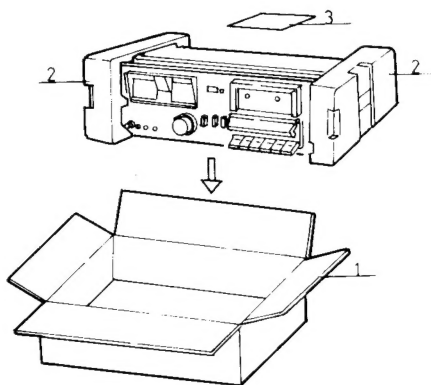


Fig. 16

Packing Material List

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
1~2	VPA3054-00B	Packing Case Ass'y	KD-A1 A/B/E/J/U	1 set
	" -00C	"	KD-A1 C	1 set
1	VPA3054-002	Case	KD-A1 A/B/E/J/U	1
	" -003	"	KD-A1 C	1
2	VPH2115-001	Cushion (L)		1
	VPH2116-001	Cushion (R)		1
	VPA3054-008	Plate		1
3	QPGA060-06005	Envelope	for Deck	1
	AP4056A-036	"	for Provided Cord	1
	QPGB024-03404	"	for Instruction Book	1
	TKS000501-01	Sheet	for Deck	1

Accessories

Parts No.	Parts Name	Remarks	Q'ty
VMP0002-00A	PIN Cord		2
T47796-00B	Head Cleaning Stick		2
TLT000429-01	Caution Card	} or VYA4001-00A Head Cleaning stick	1
AP4056A-24	Envelope		1
*VNN0026-301	Instruction Book		1
TJL294422-01	Dolby Label		1
BT20029	Warranty Card	KD-A1 A	1
BT20013B	Guarantee Certificate	KD-A1 B	1
BT20025B	Warranty Card	KD-A1 C	1
BT20032	Warranty Card	KD-A1 J/U for PX	1
TJL000443-01	Seal	KD-A1 B (Made in Japan)	1
	BEAB Label	KD-A1 B	1
QZL1002-003BS	Warning Label	KD-A1 B (2-PIN P, C)	1
T46328-003	Caution Label	KD-A1 A/B	1
T44362-001	CSA Marker	KD-A1 C	1
TLT000505-01	UL/CSA Caution Label	KD-A1 C/J	2
T46328-004	Caution Label	KD-A1 E	1
BT20024B	Special Reply Card	KD-A1 J/U for PX	1
BT20023	Service Procedure	KD-A1 J/U for PX	1
E7795-1	EP Mark	KD-A1 U for PX	1
V04062-001	Siemens Plug	KD-A1 U	1
T46328-001	Caution Label	KD-A1 U	1

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